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ABSTRACT

A community college conducted a study to determine how employers perceived formal education for audio professionals--both baccalaureate and associate degrees from community colleges, employers' training needs, how they judged entry-level employees' qualifications, and the availability of internships and entry-level employment. The study surveyed 564 audio professionals in an 8-state region, with 154 (27 percent) responses. The survey found that most employers (recording studios) were very small (three or fewer full-time employees with about the same number of part-time and contract employees). A predominant finding is that industry practitioners want the schools to form attitudes as well as technical skills. Respondents cited the need for "people skills" above technical skills; thinking skills were also requested. Most wanted applicants to have a bachelor's degree or at least 2 years experience past a two-year degree. Employers also tended to emphasize the traditional studio gear, indicating that these smaller studios have not been able to upgrade to the technological advances in the industry. The outlook for entry-level jobs was not good, and employers also did not like to use interns. Four conclusions were reached: the community college needs to do public relations work within the audio community to raise the perception of the abilities of students with two-year degrees; attitudes should be taught in a formal setting; internship opportunities should be pursued by the college; and follow-up research of the college's graduates should be undertaken. (Nineteen appendixes contain the questionnaire, cover letter, explanations for the study, and detailed analysis of responses to questions. A bibliography lists 29 references; 29 tables are included in the report.) (KC)

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A SURVEY OF THE PROFESSIONAL AUDIO INDUSTRY IN AN EIGHT STATE REGION TO ASSESS EMPLOYERS PERCEIVED VALUE OF FORMAL AUDIO EDUCATION AND THEIR PERCEIVED TRAINING NEEDS FOR ENTRY-LEVEL EMPLOYEES

by

John W. Lightner

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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A Thesis

Submitted in Partial Fulfillment

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CHAPTER I

The Problem

Introduction and Background

This study was undertaken to determine how employers perceived formal audio education, their training needs, how they judged entry-level employees' qualifications, and the availability of internships and entry level employment. This was done in an effort to determine how the changing nature of the industry may be best served by formal post-secondary education and training.

The fields of Audio Recording, Audio Production, and Sound Reinforcement have traditionally defined the professional audio vocations in the United States. Audio Recording deals with studios whose primary function is in the area of music recording for records, tapes, and compact discs. Audio Production facilities handle the more commercial end of the business: hard- and soft-sell productions for commercial and industrial clients. The venues frequented by popular entertainers are serviced by companies in the Sound Reinforcement business who provide sound support for live audiences at festivals, auditoriums, and arenas. These vocations are inextricably tied to the entertainment and consumer industries which, according to Polon (personal communication, October, 1991), have been built by the baby boomers.

But there are economic and technological pressures placed on the professional audio industry--like so many other industries in

this modern world--which force constant change, much like the earth in an earthquake zone as it seeks to find a resting place. "To remain profitable today, a major studio almost has to be in the production business, as well as the studio business" (Burger, 1988, December, p. 44) and, "Diversification into video- and film-related markets [allows] studios to tap into new profit centers" (Chan, 1988, December, p. 20). Still, one of the more prominent pressures is the expansion of technology. Chan (pp. 20 & 22) further relates that the digital audio workstation--an integration of a variety of hardware into a single computer driven system--has become an industry buzzword. Dunn (1988, July, p. 61), quoting Ken Pohlman, Program Director of the School of Musical Engineering at the University of Miami (Florida), says that the future lies in the workstation concept. The workstation, and other concepts like it will undoubtedly continue to pressure the industry to change the way that it functions.

The educational community has responded to the changing nature of the industry and the increased sophistication of the technology employed by offering formal educational and training programs for persons interested in the professional audio industry. Polon (1992a, August) capsulizes the genesis of audio education in this way:

> There were a few sparse curriculums in engineering or physics with a specialization in audio at some four-year state schools

and one or two good two-year programs by the 1970s, but the explosion of audio education was a phenomenon of the 1980s. (p. 92)

With all of this has come a change in the perception of the audio industry. Kenny (1990, July) states that, "There comes a time in most industries when jobs are no longer thought of as trades but as professions. We have reached that time in the audio recording industry." (p. 35)

Statement of the Problem

This present study was undertaken in an effort to bring some objectivity to this rapidly developing field of professional audio and to provide guidance for the Media Technology Program at Lansing Community College as courses are designed and students counseled. Quite specifically, this study surveyed audio professionals in an eight state region to ascertain their perceived value of the present level of audio education and to determine their perceived training needs for potential entry-level employees. Further, this study was undertaken to make a small beginning at filling the void that exists for scientifically based studies[1] in the literature of this professional vocational area.

Statement of Research Questions

This study was undertaken to collect data relevant to the following four research questions:

1. What value do employers place on formal education?
2. What are the rank-ordered training needs of employers?
3. What are the rank-ordered qualifications of entry-level employees as seen by employers?
4. What is available to graduates in terms of internships and entry-level employment?

Scope of the Study

This study was conducted with several limitations. First, the professional audio industry is relatively small; having, according to Polon (personal communication, October 1991), only about 10,000 jobs in the 'traditional' audio disciplines previously described. Second, the population is not well identified in any type of comprehensive census, although a number of practitioners can be found in documents of a directory nature aimed for fellow professionals. Third, and last, the budget for this project was of necessity limited and that precluded any follow-up on non-respondents.

Assumptions

One essential assumption was made as this research was being designed. That assumption is that graduates of Lansing Community College are more likely than not to seek jobs in the region including Michigan and the surrounding states. It was for this

reason that the eight state region of Michigan, Wisconsin, Minnesota, Illinois, Indiana, Ohio, Kentucky, and Tennessee was chosen as the geographic limit to this work. Further, some LCC graduates seeking a four-year degree have to choosen Columbia College in Chicago or Middle Tennessee State University at Murfreesboro, suggesting that they may still remain in the region chosen.

Outline of the Report

The remainder of this report begins with a review of related literature in Chapter II. Here, the existing literature as found in the professional 'trades' and elsewhere is discussed in an effort to determine the general consensus on the status of audio education and employment for graduates of such programs. Also, the literature pertaining to mail-survey questionnaires is perused as it relates to a study of this kind. Chapter III will detail the procedures used in designing this study, its instrumentation, as well as data collection and analysis. In Chapter IV the research findings will be displayed and discussed as well as the relationships these findings have to the literature. Finally, Chapter V will present conclusions to be drawn from the results of this study and recommendations for future research and related activities.

CHAPTER II

Review of Related Literature

Organization

This present chapter is divided into two parts. The first is a review of the existing literature concerning audio education and its relationship to the industry. This literature, of necessity, comes from the 'trade' publications as well as papers presented at SPARS (Society of Professional Audio Recording Services) conferences. This limitation occurs since scholarly journals containing scientific studies of the industry and/or audio education could not be located and--given the infantile nature of audio education--are assumed to be non-existent (See Endnote 1). The second part concerns itself with literature germane to the elements of mail-survey questionnaires such as the one used to gather the data for the research discussed herein.

Historical Background

Audio as an industry had its beginnings in the traditional recording studio--a place where music recording for records was part and parcel of the business. Only recently has that status been subject to change. Martin Polon of Polon Research International (personal communication, October, 1991) states that ten years ago a recording studio staff spent about 80% of its time making recordings for records, but by 1991 only 20% of a the staff's time was spent in record work. Today, the engineer who specializes in music recording is on the wane. Hirsch (1985,

Spring, n. pag.) contends that the day of the audio specialist is gone and that modern audio demands diversification of skills if an individual is to survive in the present audio environment.

Literature Related to the Research Problem

The Changing Nature of Apprenticeship

The professional audio industry has traditionally taught its practitioners by using an apprenticeship system where an individual was employed based on personal characteristics and trained in-house in the ways of audio craft. According to Pritts (1985, Spring), however, "It appears that the system can no longer trust the ancient apprenticeship method of preparing employees." (n. pag.) He further contends that the ancient system taught "how to do," not "how to learn." The apprenticeship system is not extinct, but its use has become limited. Douds (1985, Spring) gives yet another reason for its dwindling use in that, "This process of apprenticeship is still used today; however, the costs incurred in training an entry-level employee form the 'ground up' may be very great!" (n. pag.)

In addition to the content concerns raised by Pritts and the cost concerns stated by Douds, Grundy (1984, Fall) points to time saying that, "Up until the 1960's, in the days when studios were booked by the week or even by the month, there was ample time for a seasoned engineer to put his arm around a junior member of the staff and show him the ropes." (n. pag.)

The apprenticeship has undergone a transformation from its traditional role into a tool used by audio educators to give students a transition from school to the oft cited 'real world.' The schools call this phenomenon an *internship*. According to Miriam Friedman, program director at The Institute of Audio Research, "The big thing a student has to understand is that a recording studio is a commercial operation. The internship is sort of a halfway house where they learn the realities of the business world." (qtd. in Kenny, 1990, July, p. 41) This experience is considered so valuable by the schools that, according to Kenny (1990, July, p. 38), one is either provided by the schools or students are required to seek their own internship experience as a part of job-search training. He further states:

> The days of hanging out in a studio alleyway, hoping to be asked inside for the big break, are on the decline. It's not that you can't find a job by bumping into the studio manager at the right time. It's just that studios, like every other business in the audio industry, are turning away from their own apprenticeship programs for second engineers and are looking to recording schools for potential employees. (pp. 32 & 34)

The apprenticeship system is, therefore, prohibitive in relation to the type of skills taught, its cost, and time constraints involved. But transformed into an internship, it plays the role of transition from school to the everyday world of audio.

A Potpourri of Industry Input and Criticism

Prior to the time when a student is ready for an internship the schools have a variety of facts, concepts, principles, skills, and attitudes to address. According to Pritts (1985, Spring) the students want the schools to help them to prepare for a technical world that doesn't yet exist, but he quickly counters that, "The biggest favor we can do them is to make them 'educatable.'" (n. pag.) David Leonard, chief administrator of Trebas Institute of Recording Arts, flatly states that, "The most important thing we're trying to do is to help students learn how to think, how to solve problems, how to work in different situations in studios." (qtd. in Dunn, 1988, July, p. 64) And Hirsch (1985, Spring) adds the conclusion: "And finally we must teach professional attitudes and increase awareness of what goes on day-to-day in the world of audio." (n. pag.)

But why not just teach students how to operate equipment? Friedman asserts that, "The operator who understands technology is, in fact, a much more sophisticated operator." (qtd. in Kenny, 1989, July, p. 73) In fact, the advent of the microprocessor (Alan Kefauver, director of recording arts and sciences at Peabody Conservatory, qtd. in Kenny, 1990, p. 36) has made education a much more important part of preparation for the world of work in audio. Moylan (1988, December) says, "Today, a market exists for computer-literate individuals (in fact, long-term employment without some computer knowledge is not likely)." (p. 30) And to those who would insist that creativity is all that is

required, Lambert (1989, July) adds, "Even if we are born with that creative spark, we must learn the necessary skills to take advantage of opportunities presented to us." (p. 14)

Perhaps the greatest amount of criticism comes as a result of graduates' poor command of 'people skills.' Lambert (1989, July) chides, "I seldom hear of students being involved in classes that feature 'Psychology of the Talented Artist' or 'How to Salvage a Perilously Rebellious Overdub Session.'" (p. 23) A further criticism comes from John Fry, owner of Ardent Recordings (Memphis, TN), who says, ". . . often we really don't teach too much about what it's like to *work*, and what the elements of delivering service and excellence in work are." (qtd. in Jacobson, 1988, July, p. 107)

The need for thinking skills and appropriate attitudes is driven as much by technology as it is by the people-centered nature of the audio business. What happens to the engineer who has worked twenty years in the business and is overtaken by technology? Without the ability and initiative to engage in self-training, he/she will render himself/herself unemployable. Pritts (1985, n. pag.) warns that the need for retraining is totally dependent upon the ever changing technology that the industry uses. Potyen (1988, July) graphically states it thus, "It seems no matter how many machines you learn to use, the army of the latest generation machines continues to advance--sort of like Mickey Mouse and the insurgent brooms in the 'The Sorcerer's Apprentice' from the Disney classic, *Fantasia*." (p. 61)

A quick glance at the section titled "Recording Schools, Seminars & Programs" in the *Mix Master Directory of the Professional Audio Industry* immediately reveals a variety of entries ranging from four-year schools to seminars lasting just weeks. Which of these will prepare a student for long-term employment in the audio industry? According to Pritts (1985, Spring), "Short courses in a craft are best applied in gaining 'craftsmanship,' but are of little use to someone who cannot apply it to a firmer knowledge base." (n. pag.) He goes on to state that multi-year studies that offer no hands-on are little better since, ". . . they never get around to showing us 'why' or to fostering creativity." (n. pag.) Lambert (1989, July) elaborates on this theme: "So those training sessions in the school or university--usually involving too few actual hands-on hours at the board, and seldom if ever with 'uncooperative' or 'anxious' clients--offer little comparison to real life." (p. 23)

It could be inferred that Alexander (1985, Spring) is offering an opposing view when he states, "The goals of many audio educational programs are centered around student wants and do not always reflect the actual skills required in the workplace." (n. pag.) Opposing in that students always want more hands-on and minimal theory. Dee Robb, owner of Cherokee Recording Studios (Los Angeles, CA), offers a similar complaint by saying, ". . . I think the schools are very subjective in the way they teach people; out of touch with what's going on." (qtd. in Jacobson, 1988, July, p. 173)

For the schools which do provide hands-on training with industry representative audio equipment, some important--and expensive--choices must be made. Igl (1988, July) contends, "It is recommended practice in vocational technical education to replicate tools, materials and working conditions of industry as closely as possible in the training environment." (p. 64) How close must this be? Recording engineer Mike Mancini states, "Now the industry as a whole dictates what you have to buy. You've got to have a SSL or a V-Series Neve and Mitsubishi or Sony digital tape machines." (qtd. in Burger, 1988, December, p. 46) Jimmy Dolan of Streeterville Recording Studios (Chicago, IL) agrees, "There's got to be hands-on experience with this equipment [SSL and Neve consoles] and that's not been part of an apprenticeship or internship program." (qtd. in Jacobson, 1988, July, p. 172)

At the same time, however, the audio business is changing. Dolan says, "The engineer of the future is an all-around engineer. The music engineer, as the industry has known it, is on the decline." (qtd. in Jacobson, 1988, July, p. 172) Mike Mancini (qtd. in Burger, 1988, December, p. 48) indicates that engineers are going to have to know more about MIDI (Musical Instrument Digital Interface), while Chan (1988, December) says, "The change in operating methodologies based upon the workstation concept will lay the foundation from which a new level of user-friendly interfaces will be developed, and the subsequent job

scope of the specialist will evolve into that of a generalist." (p. 28)

The business which the industry engages in is also in a state of flux. Studio owner Chris Stone says, "The old 'diversity or die' axiom is also important to profitability because the visual business is still more profitable than the record business." (qtd. in Burger, 1988, December, p. 44) Chan (1988, December) states that the new digital technologies will make this a more viable opportunity. He says, "Aside from the studio's main business, many have integrated digital audio technologies with their existing operations to offer audio-for-video services such as off-line audio assembly, sweetening, audio post and layback." (p. 26)

A possibility also exists that much of the new technology will be implemented in studios outside the mainstream 'commercial' applications. Recording artist Patrick O'Hearn says, "I think that there will definitely be more progress made in the state-of-the-art project/home recording studio." (qtd. in Burger, 1988, December, p. 44)

How Should the Schools Respond?

Lambert (1989, July) starts a possible prioritized list by stating, "Of greater importance [than technical skills] are the people skills that set apart the seasoned engineer, producer or musician from the individual new to the business." (p. 14) David Porter, of Music Annex (San Francisco, CA), adds, ". . . I think schools have to put students in real situations with clients."

(qtd. in Jacobson, 1988, July, p. 72) And Jones (1991, August) would end the list by saying, "Finally, the modern educational environment must empower everyone it touches to be successful in a demanding, highly competitive *changing* marketplace by teaching how to think, inductively and deductively, how to cope with the increasing stress and pressures of our modern production environment . . ."(p. 25) Perhaps this is most eloquently summarized by Hirsch (1985, Spring):

> Still, history tells us that no person was considered educated unless that education was well-rounded and without bias; a place in time where Art and Science were taught as two inseparable aspects of the same reality; where the best of classical thought was preserved and integrated into the newest discoveries; where being a whole person was considered to be the highest virtue; where instructors were hired for their real world achievements and where fellowship with students was considered equally important with the specific knowledge imparted in the classroom. (n. pag.)

This reference to the first Renaissance comes as Hirsch calls for a similar renaissance in the audio industry.

The schools, according to Alexander (1985, Spring) have two major responsibilities, "It is our responsibility to prepare our students with the necessary skills and to give them a realistic expectation of what the field has to offer them." (n. pag.) In the area of necessary skills, Hirsch (1985, Spring) states, "The <u>total</u> audio person must be able and ready to deal with every

possible interface. Moreover such a person must possess a depth of knowledge and a flexibility of attitude that would facilitate learning of new technologies not yet on-line." (pp. 1 & 2)

Realistic expectations come first through school training and are then are reinforced by the internship experience. The groundwork for student expectations must include, according to Stone (1992, February), the realization that, "Studio engineers put in long hours for little pay. Second or assistant engineers--where everyone inevitably starts out--are often no more than glorified gofers or janitors, and even graduates of name institutions are not assured of this position." (p. 137) And Moylan (1988, December) adds that, "Very few of these people [those in the U.S. audio industry and related fields] have 'glamour' jobs producing, tracking or mixing big-name artists. In fact, many pro audio positions have no direct connection to the creation or performance of music." (p. 30) Thus, internship experience of some kind is cited as a critical element in a formal audio education. Polon (1992b, August) asserts that, "This [established internship program] is especially important for four-year and some two-year programs where internships provide both real world contact and 'a foot in the door.'" (p. 111)

The role of the schools in preparing future audio industry personnel is possibly best summed-up by Douds (1985, Spring):

> Through better audio education everyone benefits: students are better prepared for the marketplace; studio owners find better

workers who are more productive; clients receive better expertise for their money; and, in the long run, the consumer benefits by receiving better engineered audio product, whether that product is a record, cassette, compact disc, videotape tv/radio commercial, film, etc. (n. pag.)

Literature Related to Mail Survey Questionnaires

General

Much research in education is based on information obtained through the use of a mail-survey questionnaire. This data collection process, like much that is conducted in the field of education, falls under the category of survey research, which, according to McMillan (1989), is defined as, "The assessment of the current status of opinions, beliefs, and attitudes by questionnaires or interviews from a known population." (p. 544) The distinction to be made is that a mail-survey technique is used. Alreck (1985) says, "Perhaps the greatest advantage of the mail survey is its ability to reach widely dispersed respondents inexpensively." (p. 44) Erdos (1983) adds, "The distinction between mail and other types of surveys is the fact that in surveying by mail there is no person to ask the questions and guide the respondent. This gives rise to important differences in survey design, questionnaire construction, and various other aspects of the survey." (p. 1) A number of these considerations are taken up at this juncture.

Design Considerations

Most survey research takes a random sample of the population as its subjects and uses the results to project results to the entire population. Alreck (1985) states, "The major reason for sampling is economy. To survey every individual in a population using enumeration is ordinarily much too expensive in terms of time, money, and personnel." (p. 63) He does not discount, however, using enumeration, that is, surveying the entire population.

One of the more pressing concerns in most mail-survey research is the issue of nonresponse bias. This kind of bias, according to Alreck (1985) is, "A systematic affect on the data reducing validity that results when those with one type of opinion or condition fail to respond to a survey more often than do others with different opinions or conditions." (p. 414) It is not that these people cannot respond but, rather, they will not respond. Erdos (1983) describes the problem this way: ". . . when we speak of a 'nonresponse problem,' we usually refer to people who can be reached with proper and, if necessary, repeated effort and who could answer our questions if they wanted to." (p. 138)

Just what percentage of returned questionnaires must be attained to preclude nonresponse bias is a bit hazy, if not the subject of a raging controversy. Erdos (1983) emphatically states, "*No mail survey can be considered reliable unless it has a minimum of 50 percent response, or unless it demonstrates with some form of verification that the non-respondents are similar to*

the respondents." (p. 144) Erdos does admit, however, that findings from surveys with poorer response rates are occasionally useful if no other data is available. (p. 145) The other side of the controversy is represented by Alreck (1985) who says, "The single most serious limitation to direct mail data collection is the relatively low response rate. Mail surveys with response rates over 30 percent are rare." (p. 45) Alreck comes right back to emphasize that the reliability depends on the sample obtained, not on the number of surveys sent. (p. 45)

Perhaps one of the most important factors in ensuring a good response rate is the actual questionnaire design. Erdos (1983) maintains that, "One of the main reasons for a respondent to answer a questionnaire is the importance which he attaches to the survey. If the questions look trivial or frivolous, the researcher will lose some of his most intelligent respondents." (p. 56) Sudman (1982) hastens to add that the look of the questionnaire is of primary importance. He says, "The general rule is that the questionnaire should look as easy as possible to the respondent and should make the respondent feel that the questionnaire has been professionally designed." (p. 243)

There are a number of factors to consider when designing the questionnaire document. Erdos (1983) lists six:

1. The questionnaire must include questions on all subjects which are essential to the project; it should contain all the important questions on these subjects, but none which are not purposeful.

2. The questionnaire should appear brief and 'easy to complete.' Reading it should not destroy this first impression.
3. The reader must be made to feel that he is participating in an important and interesting project.
4. The form should not contain any questions which could bias the answers.
5. It must be designed to elicit clear and precise answers to all questions.
6. Phrasing, structure, and layout must be designed with the problems of tabulating in mind. The saving of time and money in data processing should be one of the considerations. (pp. 37-38)

Above all, according to Sudman (1982), researchers should consider themselves fortunate to have the cooperation of respondents. He says, "Researchers are fortunate that almost all persons are willing to donate their time and energy to providing answers to a survey." (p. 259) This being the case, he asserts, they deserve a well designed questionnaire and a sincere 'thank you.'

The respondents are the recipients of this planning through the questions actually posed to them by the questionnaire: questions designed to gather data applicable to the project. Sudman (1982) says, "Since questionnaires are designed to elicit information from respondents, one of the criteria for the quality of a question is the degree to which it elicits the information

that the researcher desires. This criterion is called *validity*." (p. 17) Alreck (1985 adds, "The manner in which questions are expressed can all too often introduce systematic bias, random error, or both." (p. 104)

It appears that one key variable is the level of threat elicited by the question. Sudman (1982) contends that, "Open-ended questions that require writing more than a few words are perceived as both difficult and potentially embarrassing because of the possibility of making spelling or grammatical errors." (p. 218) But if the information needed requires a fair number of open-ended questions, Erdos (1983) predicts success only under certain conditions, "Open-ended questions are frequently used in mail surveys, but the successful use of this type of questioning will depend on the nature of the question, the interest of the respondent in the subject matter, and the education and literacy of the group surveyed." (pp. 48 & 50)

Questions are not the only items printed on the questionnaire. In addition to the questions and related instructions there are a series of number codes, called precodes. Sudman (1982) states, "Precode all closed questions to facilitate data processing and to ensure that the data are in proper form for analysis." (p. 231) Indeed, one of the traditional rationales for structured questions is their amenability to coding. Alreck (1985) advises, "Listing such codes on the questionnaire before data collection avoids the extremely laborious and time-consuming task of 'postcoding' the alternatives. In fact, one of the major reasons

for using structured questions is the ability to precode the alternatives." (p. 184)

A mail-survey questionnaire is accompanied by a letter. Alreck (1985) explains the importance of the letter of transmittal thus: "In the absence of personal contact and interaction, the cover letter must explain the project and win the cooperation of the recipient, and it must do so entirely on its own." (p. 206) So important is this letter that Erdos (1983) insists that the percentage of returned questionnaires depends, in large measure, on the effectiveness of this letter. (p. 101) Alreck (1985) states that the letter should be addressed to the recipient in that, "Respondents are more likely to read a letter that is addressed directly to them and appears to be hand typed and signed than they are to a 'general' letter that is unaddressed and obviously printed. They are also more likely to do what the 'personalized' letter requests." (p. 209)

The contents of the letter must answer several questions that the recipient is likely to ask. Erdos (1983) lists twenty-two items for the researcher to consider including in the letter:

1. Personal communication.
2. Asking a favor.
3. Importance of the research project and its purpose.
4. Importance of the recipient.
5. Importance of the replies in general.
6. Importance of the replies where the reader is not qualified to answer most questions.

7. How the recipient may benefit from this research.
8. Completing the questionnaire will take only a short time.
9. The questionnaire can be answered easily.
10. A stamped reply envelope is enclosed.
11. How recipient was selected.
12. Answers are anonymous or confidential.
13. Offer to send report on results of survey.
14. Note of urgency.
15. Appreciation of sender.
16. Importance of sender.
17. Importance of the sender's organization.
18. Description and purpose of incentive.
19. Avoiding bias.
20. Style.
21. Format and appearance.
22. Brevity. (p. 102)

Alreck (1985) reinforces these points with a useful twelve question summary that could easily be converted into a checklist. (p. 207) One of Alreck's questions is, "When should I do it?" Later he adds that, "Ordinarily over 95 percent of all returns that will eventually be returned will be received within a period of three or four weeks." (p. 217)

The mailing piece consists of the envelope, cover letter, return envelope, and, sometimes, an inducement (Alreck 1985, p. 204) With reference to the mailing envelope, Erdos (1983) says,

"The name of the sender should appear neatly printed in the corner of the envelope. Good quality white paper, proper addressing, and first-class postage (preferably stamped, rather than metered) are all necessary in order to avoid any suggestion that the contents of the envelope could possible be unwanted mail." (p. 118)

Postage is an important consideration with reference to both mailing and return envelopes. Alreck (1985) says, "The type and amount of postage will affect the response rate. The response rate will be greatest when first class postage stamps are affixed. Response rate is least with a bulk mail permit, and metered postage falls somewhere in between." (p. 206) But the price to be paid for response rate must be weighed against its importance. Again, referring to postage, Alreck (1985) states, "The use of first class postage stamps on return envelopes is a costly technique. It is not recommended unless it is important to maximize response rate *in every way possible*." (p. 214)

One of the more frustrating aspects of mail surveys lies in the area of undeliverables: mail which cannot be delivered due to potential respondents moving and leaving no forwarding address or forwarding addresses becoming dated. Alreck (1985) asserts that the percent of undeliverables is an indication of the quality of the mail list that the researcher employed when designing the survey. (p. 217) Data should be kept on the undeliverables. Alreck (1985) states, "This information is not only useful to assess the namelist quality, but it is also valuable to judge the

potential quality and accuracy of the survey results and the degree to which the sample will be representative of the population as a whole." (p. 255)

With so many factors to weigh, the researcher can easily make a mistake which will affect the quality--and quantity--of the data. Erdos (1983) summarizes, "Some of the most common mistakes of questionnaire construction occur because the researcher and the respondent are not interested in the same things." (p. 57)

Summary of Literature Reviewed

This review of literature has dealt with two major areas: literature related to audio education and literature related to mail-survey questionnaires. The first area was restricted due to the general lack of scientifically-based studies in this area. Instead, it focused primarily on the 'trade' publications in an effort to give a sense of the current status of audio education. The second area focused only on those aspects of mail-survey questionnaire construction germane to the present project. An overview of the major considerations follows.

The following conclusions pertaining to audio education represent the principle findings which are relevant to the present project:

1. An in-house apprenticeship program is generally too costly, requires too much time, and is too limiting in the type of skills taught. It is, therefore, a prohibitive undertaking for the average studio. The alternative is formal education.

2. Schools need to focus on teaching students how to think in order to enable them to solve the problems in the technical world which is still on the drawing boards.
3. Schools should teach students to operate the technology with understanding.
4. Schools should teach 'people skills.'
5. Schools should provide students with a realistic expectation of what the industry is really like.
6. Schools should use industry standard equipment.
7. Schools should teach a diversity of audio applications.
8. A long-term educational undertaking is more likely to achieve the above goals than a short-term or seminar course.

The following conclusions pertaining to mail-survey questionnaires represent the principle findings which are relevant to the present project:

1. Although sampling is the usual approach, enumeration (doing a census survey) is feasible in some cases.
2. A good rate of return is necessary to mitigate against nonresponse bias.
3. The size of an acceptable rate of return is controversial but return rates of approximately 30% appear adequate.
4. Good return rates will be enhanced by: good questionnaire design, an effective letter of transmittal, and a motivated recipient.

5. The success of extensive open-ended questioning is dependent on the interest of the recipient.
6. Precoding will enhance efficiency.
7. Postage type is a consideration and will affect response rate.
8. The quality of the mailing list will be determined by the quantity of undeliverables.

These conclusions, coupled with the rationale presented in Chapter I, suggest a number of applications to the present research. It was with these conclusions in mind that the questionnaire, cover letter, and mailing were designed. Also suggested was the use of more open-ended questions that is normal as a means to probe respondents for data beyond the limitations set by the closed questions.

CHAPTER III

Procedures

Description of Research Methodology

This nonexperimental, descriptive research was conducted to survey employers in the professional audio industry to determine their perceived value of audio education as well as their perceived training needs. The research used a mail-survey questionnaire designed by the researcher to gather the data.

Research Design

As a means of answering the research questions stated in Chapter I, the recipients of the questionnaire had to be identified, the questionnaire and letter of transmittal designed, the mailing executed, the data extracted from the returned questionnaires, the data processed and analyzed, and the data analysis reported.

Selection of Subjects

The professional audio industry is relatively small and, therefore, also relatively easy to find. This ease of location is enhanced by the service nature of the industry and the naturally related characteristic that the industry wants to be found--by clients.

This study used two standard industry sources to locate the potential respondents to the survey instrument. They were: 1) *Mix Master Directory of the Professional Audio Industry* (Act III, 1991); and 2) ®*Billboard's 1991 International Recording Equipment*

and Studio Directory (BPI, 1990). From these, only potential respondents engaged in recording, production, and sound reinforcement were selected since they were considered to be most representative of the market for which Lansing Community College trains. This selection totaled 564 potential respondents.

Instrumentation

Data Collection

The data needed to answer the research questions were gathered using a mail-survey questionnaire. This questionnaire was sent to every audio business engaged in recording, production, or sound reinforcement in the eight state region chosen for study.

Development of the Questionnaire

The questionnaire used for this research was developed specifically for this project. No other research of this kind was located and, therefore, there was not an existing questionnaire designed specifically for this kind of research. The general portions of the questionnaire are similar to any number of questionnaires used for a variety of research. The remainder was formulated to address the research questions.

Revision of the Questionnaire

The questionnaire was reviewed by several people with respect to format, relevance to the research, and compatibility with data processing. These people included: Dr. James C. Greene, Program Director - Media Technology, Lansing Community College; Mrs. Bonnie McGraw, Audio Lab Supervisor, Lansing Community College; and Mr. Marc Smyth, Coordinator of TeleLearning, Lansing

Community College. Mr. Smyth's review was targeted towards the data processing concerns. Also, input was selected from members of the local audio community who were not on the mailing list for the survey. Suggestions made by Mr. Glenn Brown, Glenn Brown Productions, were received back in time to be used in the questionnaire design.

Input form the above individuals was incorporated into the draft version of the questionnaire. It was this revised questionnaire (see, Appendix A) which was mailed to the potential respondents on the compiled mailing list.

Administration of the Questionnaire

A cover letter (see, Appendix B) was drafted to accompany the questionnaire, and it, the questionnaire, and a postage-paid return envelope were sent to the 564 potential respondents on the compiled mailing list. The mailing was personally addressed to either the owner, chief engineer, or studio manager. The recipients were asked to return the questionnaire in the postage-paid envelope by October 10, 1992. No follow-up mailing was planned due to financial constraints.

A total of 154 questionnaires (27.3%) was returned. A goal of 30% was selected for the optimum return rate for the questionnaire. The small difference between the returned percentage and the goal was further reason to forego the follow-up mailing which is so often conducted for a survey of this type.

Data Processing and Analysis

As a pioneering research effort in this field, the questionnaire asked for a mix of quantitative data and qualitative responses. Both the quantitative data and the qualitative responses were placed in a database (*Alpha Four*) and the quantitative data were then imported into a statistical package (*SPSS® for Windows™*).

The quantitative data were statistically reduced and the results of these calculations are the subject of Chapter IV. The qualitative responses are reported by question number in Appendices C through L, and are briefly summarized in Chapter IV. Using the logical command structure provided by the database, the qualitative data were sorted to generate a summary of comments pertaining to a number of respondent characteristics (see, Appendices M through S). The conclusions to be drawn from these sorts are also discussed briefly in Chapter IV.

Statistical operations were restricted to summary and descriptive statistics. No attempt was made to project the data to the national population since there is no reason to believe that the respondents from a restricted eight state region are representative of the audio industry nationwide. To have done so would have required a random sample (or a census survey) to be taken from that population rather than the more restricted population addressed by this research.

CHAPTER IV

RESEARCH FINDINGS

Introduction

This study was undertaken to determine how employers perceived formal audio education, their training needs, how they judged entry-level employees' qualifications, and the availability of internships and entry-level employment. The self-administered mail-survey questionnaire was designed to gather this needed data.

Questionnaires returned by respondents were complete to a greater or lesser degree. Some respondents chose not to respond to all of the questions posed. Others responded to all of the closed questions but did not choose to respond to all of the open-ended questions. Still others not only responded to all of the closed questions but were very helpful in responding--sometimes at great length--to the open-ended questions.

Any failure to respond was taken as a 'no response' and not included in the data analysis as other than a 'no response'. Also, closed questions where more than one response was indicated were treated in the same manner (as a 'no response').

Demographics

The first page of the questionnaire (questions 1 - 4) was devoted to determining the nature of the facility that the respondent was representing. Question #1 asked for the business activities of the respondents.

Q1: **Which descriptors represent your company's primary business activities?** (Please check ✓ all that apply.)

Table 1 shows the ranking of the responses. It should be noted that respondents were encouraged to check more than one response to indicate all of the business activities conducted at their facility.

Table 1
PRIMARY BUSINESS ACTIVITIES OF RESPONDENTS

Rank	Primary Business	Mean	S.D.	Freq.	%
1	Recording Studio	.675	.47	104	67.5
2	Production Co.	.396	.49	61	39.6
3	Audio Post Production	.260	.44	40	26.0
4	Remote Recording	.214	.41	33	21.4
5	Other*	.208	.41	32	20.8
6	Sound Reinf. - Local	.156	.36	24	15.6
7	Sound Reinf. - Regional	.149	.36	23	14.9
8	Remote Production	.136	.34	21	7.8
9	Multi-Image Production	.084	.28	13	8.4
10	Sound Reinf. - National	.078	.27	12	7.8

*See Appendix C for respondent's "Other" business activities.

Most of the respondents (67.5%) were engaged in the recording business either as a primary activity, coordinate activity, or subordinate activity. Respondents engaged in production (39.6%) and audio post (26.0%) combined to represent roughly the same share of the responses (65.6%).

The data gathered from this question was further analyzed to determine how many additional business activities the respondents who were engaged in recording, audio post production, or sound

reinforcement-local were conducting at their facilities. Tables 2 through 4 represent this analysis.

Table 2 shows the business activities for respondents indicating their facilities were involved in recording. Thirty-five respondents (22.7%) represent businesses which are involved solely in recording with no other business activities being conducted at the facility (indicated by "0"). Twenty-six respondents (16.9%) represent facilities involved in at least one of the other primary businesses listed in question #1 (indicated by "1"). The remainder were involved in as many as nine of the other businesses along with recording. The mean is 1.673 business activities (SD=1.923), median is 1.000, and the mode is 0.000. The mode represents the 50 respondents (32.5%) who indicated that their facility was not involved in recording in any way.

Table 2
RECORDING STUDIO: NUMBER OF BUSINESS ACTIVITIES

#	Freq.	%
0	35	22.7
1	26	16.9
2	18	11.7
3	11	7.1
4	3	1.9
5	5	3.2
6	3	1.9
7	1	.6
8	1	.6
9	1	.6

Table 3 represents the same type of data analysis for those respondents who indicated that their business was involved in audio post production. Here, only one respondent (0.6%) represented a facility where audio post was the primary business activity. All others were involved in up to nine of the other primary business activities listed in question #1. The mean for this category is 3.075 business activities (SD=2.105), median is 2.500, and the mode is 2.000. Fully 114 respondents (74.0%) were not involved in audio post in any way.

Table 3
AUDIO POST PRODUCTION:
NUMBER OF BUSINESS
ACTIVITIES

#	Freq.	%
0	1	.6
1	9	5.8
2	10	6.5
3	7	4.5
4	3	1.9
5	5	3.2
6	2	1.3
7	1	.6
8	1	.6
9	1	.6

Table 4 shows the sound reinforcement-local category. In this category, three (1.9%) of the respondents were involved in no other business activities. But, again, the respondents represented facilities which were involved in as many as nine additional business activities. The mean was 3.208 (SD=2.502),

the median was 3.000, and the mode 3.000. Here, 130 respondents (84.4%) were not involved in any way in sound reinforcement-local activities.

Table 4
SOUND REINFORCEMENT-LOCAL:
NUMBER OF BUSINESS ACTIVITIES

#	Freq.	%
0	3	1.9
1	4	2.6
2	3	1.9
3	6	3.9
4	1	.6
5	3	1.9
6	1	.6
7	1	.6
8	1	.6
9	1	.6

Questions 2 through 4 were designed to determine how large these facilities were by querying respondents about the number of people who work at their facility. Table 5 represents the data on full-time employees (question #2).

Q2: **How many people are employed full-time at your facility?**

Table 5
FULL-TIME EMPLOYEES

Category	Mean	SD	Freq.	%
1 - 3	.580	.495	87	58.0
4 - 6	.253	.436	38	25.3
7 - 10	.060	.238	9	6.0
10 - 25	.067	.250	10	6.7
Over 25	.040	.197	6	4.0

Of the 154 respondents, 150 (97.4%) provided data on the number of full-time employees at their facility. The data indicate that 83.3% of the respondent's facilities do not employ more than six individuals, and that over half (58.0%) do not employ more than three.

Table 6 displays the data for part-time employees (question #3).

Q3: **How many people are employed part-part at your facility?**

Of the 154 respondents, 128 (83.1%) provided data on the number of part-time employees at their facility.

Table 6
PART-TIME EMPLOYEES

Category	Mean	SD	Freq.	%
1 - 3	.742	.439	95	74.2
4 - 6	.164	.372	21	16.4
7 - 10	.039	.195	5	3.9
10 - 25	.047	.212	6	4.7
Over 25	.008	.088	1	.8

Fully 90.6% of the respondent's facilities have six or fewer part-time employees. Further, almost three-quarters of them (74.2%) have three or fewer part-timers.

Table 7 represents sub-contractors (question #4): Those individuals who work in the facility on a per project basis and do not receive a regular paycheck from the facility as either a full-time or part-time employee.

> Q4: **How many sub-contractors (Independent Engineers, Musicians, Programmers, etc.) do you employ each year at your facility?**

Of the 154 respondents, 143 (92.9%) provided data on the number of independents, musicians, programmers and others who are employed to work on specific projects.

Table 7
SUB-CONTRACTORS

Category	Mean	SD	Freq.	%
1 - 3	.483	.501	69	48.3
4 - 6	.182	.387	26	18.2
7 - 10	.105	.307	15	10.5
10 - 25	.098	.298	14	9.8
Over 25	.140	.348	20	14.0

Here two-thirds (66.6%) employ six or fewer sub-contractors, and almost half (48.3%) employ three or fewer.

From this demographic data the profile of the 'typical' respondent is that he/she represents a recording studio which is also engaged in one to two other audio business activities, has three or fewer full-time employees, three or fewer part-time

employees, and retains three or fewer sub-contractors.

Research Question #1

The first of the four questions to be answered by this research is: What value do employers place on formal education? Fully seven of the questions on the questionnaire (9-12 & 17-19) were framed to address this consideration.

First in the series of queries aimed at this issue is the value placed on education when respondents are hiring an entry-level employee or negotiating with a potential intern (question #9).

Q9: **When hiring an entry-level employee or an intern, what factor is education?**

Table 8 summarizes the responses. Of the 154 respondents, 144 (93.5%) gave their rating of educational level. The respondents clearly consider educational level a factor with those not sharing this view amounting to only 2.8% of those responding to the question.

Table 8
EDUCATIONAL LEVEL PREFERENCE

Level	Mean	SD	Freq.	%
Most Important	.049	.216	7	4.9
Very Much A Factor	.451	.499	65	45.1
Just A Factor	.472	.501	68	47.2
Not A Factor	.028	.164	4	2.8

One hundred fourteen (74.0%) of the respondents rated their desired level of education (question #10).

Q10: **If education <u>IS</u> a factor, what level is most desirable to you?**

Table 9 summarizes the responses.

Table 9
DESIRED EDUCATIONAL LEVEL

Level	Mean	SD	Freq.	%
Certificates	.167	.374	19	16.7
Trade School	.289	.456	33	28.9
Associate's	.184	.389	21	18.4
Bachelor's	.500	.502	57	50.0

The Bachelor's degree is perceived as the educational level of choice from these respondents. Trade school ranks second, with Certificates and the Associate's degree coming in last.

Question #11 asked respondents to rank their preferences for the discipline which the degree represents.

Q11: **If you answered Associate's or Bachelor's above, in what discipline?** (If necessary, check ✓ more than one choice.)

Table 10 shows that ranking. Here, of those who specified the Associate's or Bachelor's degree in question #10 (n=78), seventy-six (97.4%) ranked the disciplines listed or specified "Other."

Table 10
RANK-ORDERED DISCIPLINES FOR
ASSOCIATE'S OR BACHELOR'S DEGREE

Rank	Discipline	Mean	S.D.	Freq.	%	Actual %
1	Music	.513	.503	39	51.3	22.8
2	Sound	.408	.495	31	40.8	18.1
3	Electrical Engineering	.289	.457	22	28.9	12.9
4	Recording Industry Mgmt.	.289	.457	22	28.9	12.9
5	Media Technology	.276	.450	21	27.6	12.3
6	Other*	.158	.367	12	15.8	7.0
7	Business	.158	.367	12	15.8	7.0
8	Media Arts	.118	.325	9	11.8	5.3
9	Physics	.039	.196	3	3.9	1.8

*See Appendix D for respondent's "Other" preferred disciplines.

Since the respondents were allowed to list more than one choice, the percentages do not add to 100%. There were 171 choices made by the 76 respondents who were qualified (by answering Associate's or Bachelor's to question #10) to respond to this portion of the questionnaire.

Although Music ranked first, its actual percentage (22.8%) is not large enough to indicate a clear preference. Sound is next (18.1%) with Electrical Engineering, Recording Industry Management, and Media Technology close to a tie (12.9%, 12.9%, and 12.3%, respectively).

The next question (#12) sought a rating of superiority between the four-year degree and the two-year degree.

Q12: **On balance, in your experience, have you found those students entering the workplace from four-year college or university settings to be better prepared for the job than students entering from two-year or community college settings?**

Table 11 displays the results. One hundred sixteen respondents (75.3%) gave their views on this.

Table 11
FOUR-YEAR VS. TWO-YEAR RATING

4-Yr. Superior	Mean	SD	Freq.	%
Yes	.353	.480	41	35.3
No	.586	.495	68	58.6
Just the reverse	.060	.239	7	6.0

Although the respondents were not willing to rate four-year students as being better prepared for the workplace (35.3% "Yes," 58.6% "No"), they were even less willing to allow that two-year students were even better prepared (6.0%).

Questions #17 and #18 addressed the so-called "soft" skills which students possess when they leave two-year and four-year schools. Question #17 dealt with interpersonal skills.

Q17: **Do you feel that students entering the workplace from two- and four-year educational institutions have the interpersonal skills needed to work effectively with clients and in workteams with colleagues?**

Table 12 shows the data.

Table 12
INTERPERSONAL SKILLS

Skills O.K.	Mean	SD	Freq.	%
Yes	.500	.502	61	50.0
No	.500	.502	61	50.0

One hundred twenty-two (79.2%) of the respondents gave a response. There was a clear 50-50 split on the issue of good interpersonal skills. See Appendix I for the comments of respondents who answered "No."

The communication skills of two-year and four-year graduates were the substance of question #18.

> Q18: **Do you feel that students entering the workplace from two- and four-year educational institutions have writing and verbal communication skills that are adequate to ensure their success in the audio industry?**

This question addressed both written and verbal skills. Table 13 summarizes the responses.

Table 13
COMMUNICATION SKILLS

Skills O.K.	Mean	SD	Freq.	%
Yes	.659	.476	81	65.9
No	.341	.476	42	34.1

One hundred twenty-three respondents (79.9%) gave their perceptions on this issue. Clearly--by a two-to-one ratio--they thought that verbal and written communications skills were at the level required to function in the workplace. The comments of those who thought communication skills were substandard (34.1%) are listed in Appendix J.

The last question to deal with research question #1 is survey question #19. This question permitted respondents to make any general comments that they wanted the post-secondary schools to

be aware of. Of the 154 respondents, 66 (42.9%) said they wanted to make comments not allowed for elsewhere. These comments are listed in Appendix K. The comments they gave will be discussed along with the qualitative data from the other survey questions in a later section of this chapter.

Research Question #2

The second of the four questions to be answered by this research is: What are the rank-ordered training needs of employers? Three questionnaire questions pertained to this question. They are questions #14, #15, and #16.

Question #14 asked respondents to prioritize training areas which they thought entry-level employees should be conversant with.

> Q14: **Please prioritize the training areas in which you feel a potential employee should receive pre-employment training.** (Number from 1 → , with "1" being the highest priority.)

The data is displayed in Table 14.

Table 14
TRAINING AREAS

Rank	Training Areas	Mean	S.D.
1	Console	2.050	1.827
2	Analog Multi-Track	2.683	2.525
3	Microphones	2.986	2.662
4	Signal Processing Gear	3.302	2.544
5	MIDI Instruments/Controllers	4.043	3.633
6	Digital Multi-Track	4.058	3.961
7	Digital Workstation	4.129	4.118
8	Monitor Mixer	4.165	4.301
9	Synchronization System	4.173	3.899
10	Computers	4.338	3.661
11	Console Automation	4.446	4.301
12	Duplication Equipment	5.014	4.703

It will be noted that the traditional studio complement of equipment occupies the top four positions. The recording/production/sound reinforcement console is first with the ancillary gear following on the heels (analog multi-track, microphones, and signal processing gear). In this prioritization 18 (11.7%) of the respondents made no ranking.

Question #15 was posed to respondents just in case question #14 did not cover everything that was on their minds.

> Q15: **Are there any other areas in which you feel students should receive pre-employment training as part of a formal educational program?**

Here, respondents were able to list other areas where they felt training should be focused. Table 15 shows the break between those who wanted to add and those who didn't.

Table 15
ADDITIONAL TRAINING AREAS

More Training	Mean	SD	Freq.	%
Yes	.734	.443	94	73.4
No	.266	.443	34	26.6

Most (83.1%) of the respondents said either "Yes" or "No" to this question. Almost three-to-one responded with additional areas for training. See Appendix F for an enumeration of the areas suggested by the respondents.

The last questionnaire question (#16) which pertains to this research question asked if students should be trained on specific brands of equipment.

Q16: **Is there specific brand name equipment that you feel students should be specifically trained to use?**

The responses are summarized in Table 16.

Table 16
TRAIN ON SPECIFIC BRANDS

Specific Brands	Mean	SD	Freq.	%
Yes	.203	.404	28	20.3
No	.797	.404	110	79.7

One hundred thirty-eight respondents (89.6%) contributed to this question. The table shows an overwhelming response (close to a four-to-one ratio) that students need not be trained on specific brands of professional equipment. See Appendix H for the brands that the twenty-eight respondents who answered "Yes" specified.

Research Question #3

The third of the four questions to be answered by this research is: What are the rank-ordered qualifications of entry-level employees as seen by employers? Questionnaire questions #8 and #13 targeted this question.

Before respondents were asked to rank-order their qualifications for entry-level employees, they were asked (question #8) about the experience factor.

> Q8: **When hiring an entry-level employee or an intern, what factor is experience?**

Table 17 shows the data.

Table 17
EXPERIENCE FACTOR IN HIRING

Level	Mean	SD	Freq.	%
Most Important	.207	.406	30	20.7
Very Much A Factor	.407	.493	59	40.7
Just A Factor	.359	.481	52	35.9
Not A Factor	.028	.164	4	2.8

Of the 154 respondents, 145 (94.2%) expressed their perceptions of the experience factor. Only four respondents did not value experience ("Not A Factor") as a factor in making a hiring decision. The vast majority (97.3%) preferred someone who brought previous experience to the job.

Respondents then rank-ordered their preferred job qualifications in question #13.

Q13: **What job qualifications do you consider most important?** (Number from 1 → , with "1" being the highest priority.)

This ranking is displayed in Table 18.

Table 18
RANK-ORDERED JOB QUALIFICATIONS

Rank	Job Qualifications	Mean	S.D.
1	Musical Skills	3.092	2.708
2	Electronic Repair	3.113	2.695
3	Loc./Rem. Recording Experience	3.218	3.090
4	Previous Internship	3.521	3.443
5	Sound Reinf. Exp.	3.592	6.620
6	MIDI Experience	3.606	3.392
7	Client List	3.648	3.940
8	General Computer Experience	3.810	3.261
9	Business Skills	3.831	3.335
10	Video Production Exp.	4.141	4.059
11	Personal Equip. List	4.831	4.596

A total of 142 (92.2%) of the respondents rated the job qualifications they considered the most important for applicants to possess. The rating gave a "1" to the highest priority with less importance placed on those qualifications having the higher numbers.

The data indicate a spread of "3" to "5" for the 11 items. Items one through six only differ by a half-point (0.514) and may be considered to rank together as primary. Sound reinforcement experience has a large standard deviation (SD=6.620) since a

small number of sound reinforcement companies (n=59, 38.3%) responded to the survey. The others are fairly well demarcated.

Research Question #4

The last of the four questions to be answered by this research is: What is available to graduates in terms of internships and entry-level employment? Questionnaire questions #5, #6, and #7 speak to this issue.

Respondents were asked how many internships they make available each year in question #5.

Q5: **How many intern positions do you make available each year?**

Table 19 displays the results.

Table 19
NUMBER OF INTERNS EACH YEAR

Number	Mean	SD	Freq.	%
None	.474	.501	73	47.4
One	.266	.443	41	26.6
2 - 3	.208	.407	32	20.8
Over 3	.065	.247	10	6.5

Every respondent answered this question. This data clearly indicates that a respondent's facility is equally likely to have no interns (47.4%) as they are to have from one to three interns (47.4%).

Question #6 asked respondents if they paid their interns.

Q6: Are interns paid?

Table 20 summarizes the results.

Table 20
INTERNS COMPENSATED

Response	Mean	SD	Freq.	%
No	.692	.465	54	69.2
Yes	.321	.470	25	32.1

The results show a clear two-to-one margin favoring no compensation for interns. This data was only collected from those respondents who indicated that they did use interns in question #5 (n=83, 53.9%) and who answered this question (n=78, 50.6%).

Finally, the last questionnaire question to probe this research question, question #7 asked respondents how many new hires they would typically consider each year.

Q7: **How many new entry-level people do you typically hire each year?**

See Table 21 for the summary.

Table 21
NEW ENTRY-LEVEL EACH YEAR

Number	Mean	SD	Freq.	%
None	.552	.499	85	55.2
One	.344	.477	53	34.4
2 - 3	.065	.247	10	6.5
Over 3	.045	.209	7	4.5

Each of the 154 respondents provided data on the number of new hires per year. From this data it is seen than over half (55.2%)

are not presently hiring while several (40.9%) will hire three or less.

Miscellaneous

In addition to the questions asked to support the research questions, the last page of the questionnaire contained four questions of a general and optional nature. The first (#20) asked the respondent for his/her title. This was done to determine if the mailing list had the correct titles or to see if it was passed to someone else for completion. Also, question #22 was a follow-up to see if it should be addressed to someone else, who they were, and their title (see Table 29). This information has been incorporated into the mailing list.

The respondents were also asked if they would like a copy of the results of the survey. Their responses are tabulated in Table 22.

Table 22
LIKE RESULTS

Results	Mean	SD	Freq.	%
Yes	.702	.459	99	70.2
No	.298	.459	42	29.8

The 99 respondents (70.2%) who answered "Yes" will receive a synopsis of the results of the survey. It would appear that the respondents were overwhelmingly (greater than a two-to-one ratio) interested enough in the survey to want a copy of the results.

The final response opportunity (question #23) allowed respondents to suggest questions that they might have added if they were writing the questionnaire themselves.

Q23: **Are there any questions you feel we should have asked, but didn't?**

Their responses are summarized in Table 23.

Table 23
ADDITIONAL QUESTIONS

More Questions	Mean	SD	Freq.	%
Yes	.233	.425	24	23.3
No	.767	.425	79	76.7

Almost one-quarter of the respondents (23.3%) did suggest additional questions. These questions are listed in Appendix L.

Mailing Data

As mentioned in Chapter I, this survey was limited to an eight state region including: Michigan, Wisconsin, Minnesota, Illinois, Indiana, Ohio, Kentucky, and Tennessee. Due to the geographic limitations the population was also limited and, therefore, the survey was conducted as a census survey. Under "Selection of Subjects," in Chapter III, the population was identified as numbering 564 potential respondents.

The survey was mailed to these identified individuals and businesses with the distribution shown in Table 24.

Table 24
MAILING SUMMARY

STATE	Total Mailed	Rtd. Unusable	Rtd. & Re-Mailed	Net # of Surveys	% of Total
MI	94	4	3	90	16.8
WI	31	1	0	30	5.6
MN	48	4	0	44	8.2
IL	120	6	1	114	21.2
IN	24	1	2	23	4.3
OH	80	4	0	76	14.2
KY	18	0	0	18	3.4
TN	149	7	1	142	26.4
Totals	564	27	7	537	100.0

Some of the surveys were returned by the Post Office for a variety of reasons. Table 25 summarizes the reasons and number of surveys involved.

Table 25
MAILING CORRECTIONS

Reason for Correction	Number	%
Returned by the Post Office as Unforwardable	24	4.4
Addressee has moved outside the survey region	2	0.4
Addressee unavailable for response within time set in cover letter (outside U.S.)	1	0.2
Returned with a forwarding address by the Post Office	7	1.3
Total	34	6.3

Those mailings which could not be forwarded are summarized in Table 26. These addresses were, of course, dropped from the mailing list.

Table 26
UNFORWARDABLE BY STATE

State	Number	% of State
MI	4	4.4
WI	0	0.0
MN	3	6.8
IL	6	5.3
IN	1	4.3
OH	3	4.0
KY	0	0.0
TN	7	4.9
Total	24	29.7

The questionnaires which were returned with a forwarding address were re-mailed to the new address (with the exception of the two who had moved outside the survey region). This is summarized in Table 27. Here, too, the mailing list was updated to reflect these changes.

Table 27
FORWARDED TO NEW ADDRESS BY STATE

State	Number	% of State
MI	3	3.3
WI	0	0.0
MN	0	0.0
IL	1	0.1
IN	2	8.7
OH	0	0.0
KY	0	0.0
TN	1	0.7
Total	7	13.6

As a further check on the mailing list respondents were asked to indicate if the questionnaire was addressed to the right person (question #22). Their responses are summarized in Table 28.

Table 28
ADDRESSED O.K.

O.K.	Mean	SD	Freq.	%
Yes	.912	.284	125	91.2
No	.088	.284	12	8.8

The 154 respondents were also tabulated by state. Table 29 is a summary of the geographic range from which responses were returned.

Table 29
RESPONDENTS BY STATE

State	No.	% of Mailed per State	% of Total Returned
MI	18	20.0	11.7
WI	11	36.7	7.1
MN	15	34.1	9.7
IL	37	32.5	24.0
IN	9	39.1	5.8
OH	26	34.2	16.9
KY	5	27.8	3.2
TN	33	23.2	21.4
Total	154	------	100

The response of 154 (27.3%) was interpreted to mean that the mail list complied from the sources listed in Chapter III was adequate for the purpose of this survey. See the last section of this chapter for more on this topic.

Qualitative Findings

General

Respondents to this survey were very generous in supplying their comments to the abundant number of questions which provided for an open-ended response. This was of purposeful intent due to the pioneering nature of this research. Here, the comments offered relevant to the research questions will be viewed just as they came from the questionnaires. In the second part of this section a review of comments which have undergone logic sorts by the database will be perused.

1. Research Question #1: What value do employers place on formal education?

With reference to education (question #11), employers emphasized the liberal arts as opposed to technical training. In fact one respondent said, "A specific degree is not as important as the fact that they have achieved and have capacity to grow." These responses, taken together with those which follow, give a strong sense that employers want an 'educated' individual. That is, someone who knows about many things and has taken time to develop maturity. (See Appendix D)

When asked about the 2-year vs. 4-year comparison (question #12), employers spoke to the issue of attitudes and the additional maturity that two years of additional discipline can bring. A broader educational background provides the opportunity to become a more rounded person. But this was tempered with cautions about the development of attitudes and a certain distance from the reality of the real world. (See Appendix E)

Question #17, on the issue of interpersonal skills, brought forth more criticism dealing with attitudes. Respondents spoke about unrealistic people skills, weak customer service skills, and institutions not addressing their having not stressed these attributes enough. (See Appendix I)

On the topic of communication skills (question #18), respondents cited a lack of such skills. They talked about the emphasis being placed on technical skills with a resulting loss of training in these skills. Again, 4-year students were perceived to be better prepared in this area. (See Appendix J)

The general comments (question #19) focused again on personality and attitude. The real world was mentioned as was the concern that the art of recording may not really be a teachable subject. Sales surfaced in these comments in that employees are generally expected to contribute to the facility's business by prospecting for new clients. That the audio industry is a business and it must be approached as such. (See Appendix K)

In summary, respondents want people with the advanced degrees with the hope that two more years of training will develop some commensurate level of maturity. At the same time they are counting on the schools to develop these people intellectually and technically. Not the least of the concerns lies in the area of attitudes and people skills--a must!

2. Research Question #2: What are the rank-ordered training needs of employers?

Areas where respondents felt that students should be trained (question #15) once again focused on the development of attitudes and client relations. The attitude issue appears to focus on unrealistic expectations, excessive demands, and resistance to dealing with client's ideas. The word "psychology" surfaced frequently in contexts such as, "Psychology and people skills . . ." (See Appendix G)

The issue of the 'right' equipment often surfaces in discussions with audio practitioners and was the impetus for question #16. Even though the quantitative data indicated no strong preference that students be trained on specific equipment, the open-ended responses were predictable. More often than not

such manufactures as SSL, Neve, Mitsubishi, Studer, and Otari were mentioned. It must be noted, however, than many of the responses again emphasized the use of a variety of equipment that was pro format. (See Appendix H)

3. Research Question #3: What are the rank-ordered qualifications of entry-level employees as seen by employers?

The only question on the questionnaire that allowed open-ended response to qualifications was question #13. Once again, the topic of attitude played a large role in the responses. Experience was mentioned quite often but, again, it was attitude, people skills, communications skills, and teamwork. (See Appendix F)

4. Research Question #4: What is available to graduates in terms of internships and entry-level employment?

There were no open-ended questions which dealt with this research question.

Response Sorts

In an effort to gain a better understanding of the answers supplied by respondents to the open-ended questions, some of the responses were sorted using the logical operators provided in the database program. Seven different sorts were executed and they fell into three different categories. It is a summary of those findings in the three categories which follows.

1. Response to Question #12

Three different sorts were made as an approach to question #12. The first was: Respondents Answering "Associate's Degree"

to Question #10 - Comments to Question #12. See Appendix M for a complete listing.

Here, the sort brought a sharper focus to an analysis of the comments. Although the oft cited attitude component was mentioned, it was tempered with the sentiment that four-year students expect more and that much of attitude depends on the individual, not the institution.

The second sort was: Respondents Answering "Bachelor's Degree" to Question #10 - Comments to Question #12. See Appendix N for a complete listing.

Again the focus becomes clearer as respondents cite a higher literacy level and that two years can not provide training in both the liberal arts and the technology. A broader background probably alludes to the same concern. Motivation and adjustment are also seen as reasons for respondents to choose the Bachelor's Degree.

The third sort in this category was: Respondents Answering Other Than "Associate's Degree" or "Bachelor's Degree" to Question #10 - Comments to Question #12. See Appendix O for a complete listing.

Respondents who do not favor either of the two academic degrees cite real world experience as the only way to learn the business. They refer to four-year students as being over qualified and that they are looking for the 'right' person, regardless of educational background. But that attitude concern also surfaces frequently among this segment of respondents.

In summary, each group of respondents have their own reasons for preferring one of the two degrees or no degree at all. The common factor, however, seems to be that they all want people who have the right attitude and people skills.

2. Response to Question #13

Two sets of sorts were performed in order to tap into the open-ended comments on question #13. This question addressed qualifications for entry-level employment.

The first sort was: Respondents Answering "Recording Studio" or "Audio Post Production" to Question #1 - Comments to Question #13. See Appendix P for a complete listing.

Personality seems to predominate these comments as well. Perhaps this was best expressed by one respondent, "Personality, ability to work with clients, likeable, friendly, able to work under pressure, attention to detail while being time conscious, genuinely interested in client's end-product no matter what it might be."

The second sort was: Respondents Answering "Sound Reinforcement-Local," "Sound Reinforcement-Regional," or "Sound Reinforcement-National" to Question #1 - Comments to Question #13. See Appendix R for a complete listing.

Attitude, aptitude, and willingness to take direction predominate these comments. There is some emphasis on the technical aspects, but the overarching theme is one of being the 'right' person.

3. Response to Question #15

Two sorts were conducted to get more detail on question #15. The question focused on pre-employment training in a formal educational setting.

The first was: Respondents Answering "Recording Studio" or "Audio Post Production" to Question #1 - Comments to Question #15. See Appendix Q for a complete listing.

It is probably not surprising to hear people skills and attitudes mentioned once again. Again, the sentiments are effectively summarized by one of the respondents, "I can teach someone with the right attitude & people skills to run the studio. It's much harder to change the attitude & people skills of someone who can run the studio if they don't have their attitude together."

The second sort was: Respondents Answering "Sound Reinforcement-Local," "Sound Reinforcement-Regional," or "Sound Reinforcement-National" to Question #1 - Comments to Question #15. See Appendix S for a complete listing.

These comments seem to be the exception since attitudes are not mentioned once (although people skills are). Instead, respondents are citing a variety of technical skills which are common concerns of sound reinforcement people. It is interesting that one respondent mentions community service as a way of gaining the experience needed for a professional job.

To summarize, the predominance of answers to the sorts relative to question #15 bring up the common theme from amongst

these respondents and that theme is 'attitudes.' Although a fair number of citations of technical skills were made, only the very last sort gave the more 'traditional' response set.

Explanation of Findings

With respect to the more basic data, the findings of this research are not too unlike the stereotypical view of the audio industry. As previously stated, the so-called 'typical' respondent represents a recording studio which is also engaged in one or two other audio business activities, has three or fewer full-time employees, three or fewer part-time employees, and retains three or fewer sub-contractors. But if one moves beyond the basics many of the trends and cautions brought forth in the review of literature are quite striking.

Predominant amongst the findings is that industry practitioners want the schools to form attitudes as well as technical skills. This bears out Lambert's call for people skills and Alexander's insistence that schools give students realistic pictures of the industry (See Chapter II, pp. 10 & 14).

One of the more disconcerting findings is respondent's apparent disregard for the two-year degree. The Bachelor's degree was certainly selected from the quantitative analysis, but the response to the open-ended questions pointed to two years of additional maturity as the primary reason for this choice. (This conclusion recognizes the secondary conclusion that two more years allows for additional studies as well.) The thinking skills advocated by Jones along with Friedman's informed operator

are certainly valid responses to these respondents (See Chapter II, pp. 13 & 9).

With respect to training needs, the fact that respondents tended to emphasize the traditional studio gear may well be an indication that the smaller studios (and these respondents generally represented small facilities) have not been able to upgrade to workstations and other technological advances in the industry. On the other hand, it is likely that entry-level employees will not utilize this equipment immediately and training on the traditional equipment is in perfect harmony with the tasks they will likely be assigned.

It appears that an interpretation of what constitutes industry standard equipment--which Igl (Chapter II, pp. 11-12) says students should be trained on--carries various interpretations. The quantitative analysis clearly shows that brand names should not be a factor and, when asked to comment, the major manufacturers of state-or-the-art equipment were enumerated. This is a long-standing dispute in audio and it is certainly a factor in the thinking of these 154 respondents as well.

Given the present economy, the outlook for entry-level jobs in these predominately small facilities is not surprising. But the most disconcerting aspect is the general disposition to not use interns. That only about half of the respondents make such positions available is, again, most likely an outgrowth of the small size of the businesses represented by the respondents.

To summarize, these respondents seem to represent the traditional audio industry in terms of business activities and philosophy. They are cognizant of the need for new employees who will be able to contribute to the facility with the largest emphasis placed on getting along with clients. Their small size indicates that students wishing to gain entry-level employment had best look outside the limited geographic region chosen for this study.

Chapter V

Conclusions and Recommendations

Introduction

The audio industry is not large and yet the skills required for success are quite extensive. This has become more the case in recent years as the development of digital technology has reached the point where the technology is both powerful and affordable. Certainly this factor alone points to a formal educational program as a solution for the industry's training needs.

This study was conducted to answer four questions concerning employers' perceptions of the effectiveness of formal education, their specific training needs, the attributes which make an applicant a viable candidate for employment, and the availability of internships and entry-level employment for students. All in all, this study is a good first attempt at gathering this kind of data from the industry.

Review of Procedure

One of the major limitations in the present research was the lack of ability to perform a follow-up on the nonrespondents. Although the 27.3% response rate is respectable, it would be good to have the assurance that the nonrespondents are of essentially the same mind as the respondents and were not responding due to some important characteristics.

A second restriction may have been the use of Lansing Community College envelopes and stationary. Although the respondents gave seemingly honest answers (which did not defer to the community college), nonrespondents may have discarded the mailing because of the seeming lack of relevance between themselves and the college.

Certainly a third limitation concerns the design of the questionnaire itself. The addition of a "None" category for questions #2, #3, and #4 would have been appropriate. It is likely that the number of 'no response' replies to these questions may be linked to this oversight. Also, some respondents may have checked a category just to comply with the instructions to respond.

Recommendations

A number of recommendations are proposed as a result of this research. Most pertain to the community college whose information needs were considered as this study was designed and has attempted to begin to fill. Others, however, focus on additional research which would be a beneficial complement to this work. The recommendations are:

1. The community college needs to do some public relations work within the professional audio community. The low perception of preparedness of students with the two-year degree needs to be changed. Individuals in the professional community need to understand that the average community college student enters with a very high level of

maturity and is generally pursuing a career based on a mature decision making process.

2. Both the audio community and the educational community need to become aware that attitudes can be taught in a formal educational setting. The professional practitioner responding to this survey has the impression that attitude shaping can only occur in the 'real world.' On the other hand, many in the educational community need to become aware that attitudes can and should be taught and learn the techniques to accomplish this.
3. The community college needs to actively pursue internship opportunities within the professional community. A first step might include a follow-up questionnaire targeted just to the issue of intern opportunities.
4. A clarification of what 'post production' entails should be sought from the industry. The fact that only one respondent was engaged in post production as a sole business activity and that only 19 others were involved with post production along with one or two other businesses seems rather low given the present emphasis in the industry.
5. A separate study should be conducted within the sound reinforcement segment of the industry. This segment has needs which are quite different from the studio world and it is difficult to gather data industry-wide within the context of a single general questionnaire.

6. More work should be done to compare the maturity levels of two-year vs. four-year students. It would be useful to have a quantitative measure of any differences which might exist.
7. The community college should perform follow-up studies with its own graduates in order to gain a first-hand view of some of the difficulties in entering the industry. Although this process is difficult, the results would be a most valuable addition to the available data.

These seven recommendations for future activities, if executed, would add greatly to the body of knowledge in this area of study. The lack of scientific data on formal audio education is atrocious when one considers the number of institutions involved in this activity. One can only hope that in the future programs will be based on adequate data rather than on intuition and whim.

Appendix A

Questionnaire

AUDIO INDUSTRY QUESTIONNAIRE

Please check ✓ the box that precedes your response to each question.

Your Business

1. Which descriptors represent your company's primary business activities?
(Please check ✓ all that apply.)

- ☐ Recording Studio (01)
- ☐ Production Company (02)
- ☐ Remote Production (03)
- ☐ Multi-Image Production (04)
- ☐ Audio Post Production (05)
- ☐ Remote Recording (06)
- ☐ Sound Reinforcement-Local (07)
- ☐ Sound Reinforcement-Regional (08)
- ☐ Sound Reinforcement-National (09)
- ☐ Other (specify) _____ (10)

2. How many people are employed full-time at your facility?

- ☐ 1 - 3 (11)
- ☐ 4 - 6 (12)
- ☐ 7 - 10 (13)
- ☐ 10 - 25 (14)
- ☐ Over 25 (15)

3. How many people are employed part-time at your facility?

- ☐ 1 - 3 (16)
- ☐ 4 - 6 (17)
- ☐ 7 - 10 (18)
- ☐ 10 - 25 (19)
- ☐ Over 25 (20)

4. How many sub-contractors (Independent Engineers, Musicians, Programmers, etc.) do you employ each year at your facility?

- ☐ 1 - 3 (21)
- ☐ 4 - 6 (22)
- ☐ 7 - 10 (23)
- ☐ 10 - 25 (24)
- ☐ Over 25 (25)

5. How many intern positions do you make available each year?

- ☐ None (26)
- ☐ One (27)
- ☐ 2 - 3 (28)
- ☐ Over 3 (29)

6. Are interns paid?

- ☐ Yes (30)
- ☐ No (31)

7. How many new entry-level people do you typically hire each year?

- ☐ None (32)
- ☐ One (33)
- ☐ 2 - 3 (34)
- ☐ Over 3 (35)

Your Hiring Preferences

8. When hiring an entry-level employee or an intern, what factor is experience?

- ☐ The most important factor (36)
- ☐ Very much a factor (37)
- ☐ Just another factor (38)
- ☐ Not a factor at all (39)

9. When hiring an entry-level employee or an intern, what factor is education?

- ☐ The most important factor (40)
- ☐ Very much a factor (41)
- ☐ Just another factor (42)
- ☐ Not a factor at all (43)

10. If education IS a factor, what level is most desirable to you?

- ☐ Certificate(s) from short course(s) (44)
- ☐ Trade school graduate (45)
- ☐ Associate's Degree (46)
- ☐ Bachelor's Degree (47)

Your Hiring Preferences (cont.)

11. If you answered Associate's or Bachelor's above, in what discipline?
(If necessary, check ✓ more than one choice.)

- ☐ Music (48)
- ☐ Electrical Engineering (49)
- ☐ Business (50)
- ☐ Media Arts (51)
- ☐ Media Technology (52)
- ☐ Physics (53)
- ☐ Recording Industry Management (54)
- ☐ Sound (55)
- ☐ Other (specify) _____ (56)

12. On balance, in your experience, have you found those students entering the workplace from four-year college or university settings to be better prepared for the job than students entering from two-year or community college settings?

- ☐ Yes (57)
- ☐ No (58)
- ☐ Just the reverse (59)

Please explain your answer briefly:

13. What job qualifications do you consider most important?
(Number from 1 → , with "1" being the highest priority.)

- ___ Musical skills (plays an instrument) (60)
- ___ Business skills (accounting, books, typing, etc.) (61)
- ___ Electronic repair background (62)
- ___ Previous internship at another facility (63)
- ___ Video production experience (64)
- ___ General computer experience (65)
- ___ Location/remote recording experience (66)
- ___ Sound reinforcement experience (67)
- ___ MIDI experience (68)
- ___ The potential employee's personal equipment list (69)
- ___ The potential employee's client list (70)

List any other areas (not included above) that you also consider important:

Your Perception of Training Needs

14. Please prioritize the training areas in which you feel a potential employee should receive pre-employment training.
(Number from 1 → , with "1" being the highest priority.)

___ Console (71)
___ Signal processing gear (outboard effects/processors) (72)
___ Console automation system (73)
___ Synchronization system (74)
___ Analog multi-track recorder (75)
___ Digital multi-track recorder (76)
___ Digital workstation (77)
___ MIDI instruments/controllers (78)
___ Duplication equipment (79)
___ Microphones (80)
___ Monitor mixer (81)
___ Computers (82)

15. Are there any other areas in which you feel students should receive pre-employment training as part of a formal educational program?

☐ Yes (83)

☐ No (84)

If "Yes," please specify:

16. Is there specific brand name equipment that you feel students should be specifically trained to use?

☐ Yes (85)

☐ No (86)

If "Yes," please specify:

Your Perception of Training Needs (cont.)

17. Do you feel that students entering the workplace from two- and four-year educational institutions have the interpersonal skills needed to work effectively with clients and in workteams with colleagues?

☐ Yes (87)

☐ No (88)

If "No," please specify:

18. Do you feel that students entering the workplace from two- and four-year educational institutions have writing and verbal communication skills that are adequate to ensure their success in the audio industry?

☐ Yes (89)

☐ No (90)

If "No," please specify:

Your Perception of Training Needs (cont.)

19. Are there any general comments that you would like to share regarding the preparation for the workplace that students are given in post-secondary schools?

☐ Yes (91)

☐ No (92)

If "Yes," please specify:

General

20. What is your title?

Your title:

21. Would you like a copy of the results of this survey?

☐ Yes (93)

☐ No (94)

If "Yes," please provide your name and address here:

Optional - But Appreciated

22. Was this questionnaire addressed to the right person?

☐ Yes (95)

☐ No (96)

If "No," who should it have been addressed to and what is that person's title?

23. Are there any questions you feel we should have asked, but didn't?

☐ Yes (97)

☐ No (98)

If "Yes," please use this space for your questions or you may attach any additional questions that will not fit here:

Thank you for taking time to complete this questionnaire.

Please return this completed questionnaire in the postage-paid envelope provided or mail directly to:

John W. Lightner
52 Media
Lansing Community College
PO Box 40010
Lansing MI 48901-7210

Questionnaire © 1992, John W. Lightner
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Appendix B

Cover Letter

JOHN W. LIGHTNER
Assistant Professor
Media Technology

Rm. 108 (AOF)
Academic and Office Facility
PH: **(517) 483-1677**

LANSING COMMUNITY COLLEGE

16 September 1992

Respondent's Name &
Business Address

Dear :

I am currently in the process of gathering information that will help those of us involved in audio education help to meet the training needs of the professional audio industry.

You can help me by taking just the five or ten minutes required to complete and return the enclosed questionnaire. As you can see, I've tried to keep the questionnaire brief and make it as easy as possible for you to respond to each item.

I have selected an eight state region in the middle U.S. to survey and you were selected to participate because your business is providing professional audio services in this area. Since I have chosen to limit the distribution of the survey to a specific region, each of the responses I receive will be crucially important in assuring the validity of the results I will discover and report.

Please be assured that you will not be identified in any way by your participation in this process. The results of all returned surveys will be added to the database and statistically analyzed: they will be reported in a composite and anonymous fashion.

Won't you respond to the questionnaire right away? Please note that I've included a postage-paid return envelope for your convenience. I will accept all questionnaires that are returned before October 10. Please share your opinions with me.

Again, allow me to state that this information will be used to benefit the professional audio industry by tailoring training to the stated needs of the industry. Take your part in helping to shape the future of our industry by telling us what you need in terms of trained entry-level employees.

Thank you in advance for taking an interest in the future of our industry.

Very truly yours,

John W. Lightner

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Appendix C

Question #1

Listing of "Other" Business Activities

Appendix C

Comment responses to "Other (specify)" in Question #1:
Which descriptors represent your company's primary business activities? (Please check ✓ all that apply.)

Record Company

Duplication.

Retail Music Store.

Also building installation of audio systems, custom design & manufacture of cabinet, casecovers, etc.

Lighting, Retail.

Audio Duplication.

Classes.

Cassette Duplication.

Tape and Equipment Sales.

Film Sound.

National Production Training Center. "Road Crew." Special Events Management.

CD and Cassette Duplication.

Home Theatre Manufacturing.

Props, AV & Lighting Production. Installation, Sales, Rentals.

Sound Reinforcement Sales and Installation.

Music Composition.

Original Music & Recording.

Video Production.

Pretty equally split between Voice Recording, Music Recording, Video Production, Audio Duplication and Video Duplication.

Creative Services and Duplication.

CD and Cassette Mastering.

Sports Networks.

Cartage, Rental, Light Rehearsal.

Tape Duplication.

Custom Album Projects.

Music Publishing.

Mastering Studio.

Video Shoot/Edit.

Training/Workshop.

Mastering/CD Preparation.

Audio Equipment Sales.

Appendix D

Question #11

Listing of "Other" Disciplines

Appendix D

Comment responses to "Other (specify)" in Question #11:
If you answered Associate's or Bachelor's above, in what discipline? (If necessary, check ✓ more than one choice.)

Recording/Engineering Technology.

Liberal Arts.

Doesn't matter.

Lighting.

Electronics Technology.

Tonmeister Program.

Liberal Arts.

Liberal Arts.

A specific degree is not as important as the fact that they have achieved and have capacity to grow.

Any Liberal Arts Degree.

Any (education, to me, mainly shows discipline).

Client Relations.

Recording Maintenance.

Doesn't matter.

Commercial music & recording.

Appendix E

Question #12

Listing of Explanations

Appendix E

Comment responses to Question #12:
On balance, in your experience, have you found those students entering the workplace from four-year college or university settings to be better prepared for the job than students entering from two-year or community college settings? Please explain your answer briefly:

Basically, we look for those individuals who have an intuitive sense of sound, past the realm of textbook knowledge.

Most employees don't realize the hours and dedication involved to be successful.

Not always, but usually.

4 year students seem more mature & prepared to handle relationships w/ other coworkers & the clients.

I have found that the amount of training received in their course has proved to be more beneficial than book theory.

Provided it is a school that has the correct programs: UCLA, U of Miami, etc.

Many expect something other than entry level position for 4 years of expensive training. That's just not realistic.

You can't learn to be a sound man in school. You have to go on the road and work under "real" pressure.

Education does not reflect attitude, hunger or common sense. These are our hiring criteria.

The level of personal enthusiasm.

Our best employee is that with the most real-life experience.

Audience is primarily college professions, students, and university-trained professionals. The people who have B.A./B.S. and M.A./M.S. level education are better equipped to understand our audience. We have had associate degreed workers in graphic design.

It seems that education is less important than desire and/or attitude.

My impression is that two years doesn't give enough background in both the liberal arts and the chosen field of study. Must know something about Art, Music, Literature, Theater, etc. to work in the Motion Picture industry. Associate degree just doesn't supply than broad background.

Often found to be inflexible, rigid, can't relate to a real world environment, slow under pressure, can't cope with inconsistencies, often don't relate well to stage hands, drivers, electricians, etc.

Only two interns, can't tell much yet.

Sometimes a four year students is overly qualified for any entry position.

The college grads still don't have much practical knowledge due too inexperience, but come with a know-it-all attitude.

The people best suited to this line of work are those who can get along with people under many stressful situations and not lose their cool. Of course they must have a very good musical "ear," but the rest can be taught by doing.

Two-year community college students seem more interested in starting to work and learn the biz from the beginning. Four year kids are a little more eager/less patient to make their mark. Four year students turn-over much faster also.

It is the individual student's performance that must be judged. I received a much better education from a university than a friend who went to a two-year college.

Education is important, but attitude and willingness to learn are usually more important. Entry level students with a good attitude come from all areas...trade schools, two-year, and four-year programs. I can teach anyone with a good attitude.

Students from four-year colleges have a broader educational background.

Basically because of more experience and being more mature. There are always exceptions to the rule.

The field is a very difficult field to enter. The less educated students (as opposed to those with B.A.'s, etc.) are willing to work harder to attain their goals.

We look for the "right" person; a combination of knowledge, training/ability, experience and ATTITUDE.

More time to absorb and remember information. You should, in my opinion, have a fully functional studio open to the public for students to operate as a business (in both management and support).

It generally adds two more years of maturity and growing up. At this age two years can make a big difference. The education alone might not be that big of a difference.

I believe four-year college provides a more rounded education and mature attitude to the work place.

They expect to work hard to prove and earn their positions. College grads have an attitude that you owe them.

Job training is important but "the will" to work hard in the production business is more important than any degree. Our business in not a 9-5 job but a 24 hour, 7 days a week endurance test!

1) It seems most four year college grads are somewhat molded in their ideas of accomplishing a task at hand and do not have the real world experience needed in the concert sound business. 2) Most four year people do not want to work on the road and haul equipment. 3) Pay does not justify a four year degree.

Education is necessary but practical applications are better. On job and just know how are best. People skills a must.

In general (from my experience at least), the people better prepared for a job in the recording studios are most likely already experienced (in some way or another) in the music business (e.g., musician, performer, etc.). The educational experiences never made a difference.

We like the well rounded person. In our experience, the student who has completed a four year degree is more motivated, well adjusted (socially and professionally) and flexible than students from two year schools or short coursework in recording. These short, X-week long recording courses are worthless in my mind.

Trade programs offer more focus.

Students from two year institutions are normally self-presentation oriented and will accomplish more.

In the type of music production we do, the engineer's ability to communicate on a musical level is extremely important.

We have people with four-year degrees. However, none are music industry related.

Four-year students have greater over-all education. Two-year students seem to have more ready-to-use hands-on experience, plus are less concerned about getting their hands dirty.

Attitude and the willingness to learn are the most important factors to me.

Attitude, aptitude and people skills are first in priority.

From our experience we have found students better prepared for the job who have a two-year Associate degree. Many of those students have held a job while attending school. They know what is expected of them on the job. They work well with co-workers, clients and the unexpected.

Two-year programs are usually like trade schools; are job task oriented, i.e., hands-on, get the job done.

Colleges spend too much time in developing small amounts of knowledge or a broad spectrum to topics. Specialized training (What a concept!) needs to be addressed. This, along with communications skills and work ethic is regularly overlooked.

The discipline of pursuing a four-year degree means as much as the course preparation. A person with a degree has made a commitment. As a rule of thumb, entry level training can be completed in a two year period. General knowledge and people skills--a very important factor--require a much greater period to develop.

Principle application is by far more important. Four-year students are biased with theory so lack abilities to respond to situations.

The only factor which is relevant in the live sound reinforcement field is experience. You cannot learn live sound in a classroom.

Everyone starts on about the same level. People have different strengths, obviously, but learning the politics of the sound business is something only time can teach.

Longer in school, farther from workplace. Clinical vs. reality. Expectations far exceed what is available.

This studio is very young. My business flow is not great enough to support more employees. Thus, my lack of contact with schooled individuals makes it hard to answer this question.

I am basically concerned with the work ethic of the individual, regardless of his or her degree.

I expect any employee of mine to be able to carry on a conversation with my clients, about music and topics unrelated. The higher the educational level, the better. I'll hire someone with higher education and less experience over the opposite. I can always teach skills but I can't give someone an education.

Per individual.

Any student fresh out of college (2 or 4-year) is generally ill-prepared for any studio position and I have not seen much of a difference either way.

Four-year college usually are trained for other careers or interests. Expect too much money. Aren't more qualified in any desirable way. No good schools for engineers that teach reality.

It depends on the individual--motivation.

School can be very beneficial, but engineering, client relations, etc. is an art that can't be learned from a book. It's far more involved than that.

Haven't had any.

Don't know.

I have found, to a person, that persons with "audio" degrees are totally unprepared for the workplace.

Have never hired a student just out of college.

Four-year degree indicates ambition above norm. Experience and education will be important, but we choose employees based on their capacity to learn our business.

No comment.

Nothing can replace the four-year college experience in terms of maturity and growth for someone entering the job market. In balance, college graduates posses the reasoning and cognitive skills needed to succeed at any new job situation. College graduates are more likely to commit themselves to the situation, devote themselves to the job and see it through to the end. They are simply more reliable.

Work ethic and attitude are more important to me than education level.

When I do "hire" interns and entry level I find their college/university education more of a hinderance than help! Their "know it all" attitude I feel is not conducive to working in a creative atmosphere.

The person's internal drive and desire to be successful seem to be what makes the person most desirable for the job.

No substitute for real world experience.

No comment.

They don't know any more or less about the industry, but are generally more literate. World view, ability to communicate orally and in writing, self-discipline. These factors enhance the individual.

A four-year program gives an individual a chance to grow personally. Also very important, it gives them time to intern while in school, which may take years before a job position can be found. A graduate from any program is useless to me without intern experience.

It depends on the background and knowledge the applicant has before going to school as to how long it takes them to become competent employees.

It depends totally on the individuals themselves: how serious they are about learning, their attitude, and the ability to do what is asked of them in a professional manner. Doesn't matter if they were in four-year or two-year program.

Typically, those from a four-year program are better suited--probably more from a perspective of maturity and social interaction--than from the standpoint of technical skills. Getting people with talent doesn't seem to be a problem. Getting people who can work well with other engineers and clients is a problem!

Usually depends on student's desire to learn and get ahead. Most--the best--sign as grips and stick around and learn other areas too. If we see they're responsible, we'll move them up to better paying jobs. Attitude is very important.

Four-years: they have picked up too many bad habits. I prefer high school grads with plenty of sequencing experience.

Individuals that are bright and motivated are prepared from both four-year and two-year courses. Ego-maniacs and students with unaddressed personality problems are worthless after ten years of school.

Depends totally on the individual case and there are very few data points.

Most interns have attended four-year institutions.

I find that in both cases they are equipped with little more than basic understanding of the industry. The rest must be digested in the studio by encountering real life situations.

Appendix F

Question #13

Listing of Other Qualifications

Appendix F

Comment responses to Question #13:
What job qualifications do you consider most important?
List any other areas (not included above) that you also consider important:

Good hair.

Diplomatic qualities. Personal qualities. Non-smokers preferred.

Troubleshoot live sound problems: hums, buzzes, ground loops. this is a very important area, not many students know even where to start.

Character references.

As to the above--it I am hiring an office manager or clerical--the above listing is not applicable.

Desire to learn. Eagerness to achieve.

Work ethic, attitude, personality.

Personal communication skills.

All above are good but first priority is attitude and ability to relate/communicate with clients and to make them feel comfortable--that they are in their best working environment.

Commitment to quality teamwork.

Attitude & personality.

Attitude, communication skills, personal goals, willingness to work hard long hours (dedication), understanding of engineering occupation.

Client Relations. Marketing.

Appearance, grooming, size, weight, command of the English language, willingness to work, creative ability, honesty, reliability.

Stage experience, working in a low light environment, theater, coffeehouse, college concert stagehand experience, all would be more important than items 4 through 8.

Attitude, teamwork.

Experience.

Ears--knowing what music is supposed to sound like.

Personality--getting the client to like him/her.

Can he or she work with people?

References from other jobs and people.

Acoustic recording experience.
In-studio experience, hours logged, credits.

Personality is extremely important. Everything else can be taught.

Ability to interface with people.

Attitude and willingness to learn.

Personality is the MOST important!

Audio post production for video.

Engineering in studio and good sales/people skills.

Personality, eagerness, dependability.

I find most important: maturity, personality, intuitiveness. The above skills were much more technical. Ultimately, recording is working with and for people.

My most important employee criteria: enthusiasm, alertness, intuitiveness, communication and support skills.

Technical skills and previous work experience (retail, sales, management) major factor.

Analog/digital tape editing. "Micing" of different instruments and voices.

Interrelational, pleasant, professional attitude without ego.

Attitude. Desire to learn.

Being able to think.

Have they done any shows, theatre, convention, etc. Actual job experiences.

Eagerness to learn.

People skills.

Personality.

Well adjusted personality with open eyes and a willingness to learn humility.

In studio recording and mixing experience. Phone handling professionalism.

Enthusiastic "can do" attitude. Ability to work well with people.

Personality. Musical "taste" or "ears."

Personality and attitude.

Attitude is the most important: not too cocky but enthusiastic as hell.

Personal communication skills.

Work ethic. Good attitude.

Willingness to listen to directions. Willingness to accept the fact that what they were taught is usually not the way the real world is.

A general understanding of audio and video equipment operation. Personality-The ability to work with others (Personal work ethic).

Studio recording experience.

People skills.

Skills in communicating with others and knowing how to deal well with clients. "People skills"!!!

Wake up!!! You people must provide communications skills and motivation to work or else items #1-11 are useless.

Public relations skills, sales experience, certification.

Able to think/answer quickly without looking like you're picking your words and knowing when you're right and a client is wrong, and being able to tell them without pissing them off.

Personality and work habits exceed any of the above.

Sales ability.

Communication skills. Education (the more the better). Related experience (engineering, etc.). Music-playing, writing, teaching, etc.

"Ears" alone audio engineering skills would have been #3. Must be "multi-level" person, i.e., one who can mentally operate on three or more channels simultaneously.

Ability to communicate with the client in an intelligent manner! Ability to adapt and learn from new experiences.

An individual who is personable, anxious to enter the industry, realistic with goals and responsible, honest, mature, fun (with a good sense of humor), respectful and caring. Do you teach these qualities?

Personality, ability to work with clients, likeable, friendly, able to work under pressure, attention to detail while being time conscious, genuinely interested in client's end-product no matter what it may be.

A great ear, client relations, the art of mic technique.

People skills. The ability to work with and interact with the client and to keep the client happy.

Studio Recording Experience.

Again, I can't stress the importance of a four-year college degree. Preferably not in the music business. A well rounded educated person makes the best sound reinforcement professional. Beyond all the technology skills this is #1 a people business. A person with strong interpersonal skills is worth five "technical" graduates.

Physical ability.

Most important is general responsibility and efficiency.

Attitude, personality.

As in any endeavor in life, you must have a passion for your activity, whether it be your job, your schooling, your music, whatever it is that occupies your time. To be a recording and/or mixing engineer you must have a passion for it.

Ability to get along with people and have communication skills in person and on the phone.

Enthusiasm and ambition.

Common sense, enthusiasm, ability to work with people, professionalism.

Studio etiquette, attitude and demeanor above all.

Good attitude!

Knowledge of tape machine alignment and set-up. Solid foundation in basic signal flow and gain structures.

Ability to work well with others. Willingness to learn from others.

Overall ability to deal with people. Ability to function under pressure (deadlines, breakdowns, etc.).

Attitude, aptitude, personal integrity, references from employers and/or instructors.

Attitude, attitude, attitude.

Personality and etiquette to clients.

Ability to communicate with clients. Work under stress.

Recording experience (in the studio).

Work ethic and willingness.

Appendix G

Question #15

Other Training Needs

Appendix G

Comment responses to Question #15:
Are there any other areas in which you feel students should receive pre-employment training as part of a formal educational program?

N/A

Troubleshooting live sound problems.

Mixing. Recording.

Communication skills: Attitudes, appearance, ability to "listen."

On the job training is most important.

Students should receive a two-year internship with extensive hands on experience before applying to sound engineering positions.

Public Relations, marketing, economics.

If you have a good exposure to E.E. all of the above divisions becomes insignificant.

A.C. basics.

I can teach someone with the right attitude & people skills to run the studio. It's much harder to change the attitude & people skills of someone who can run the studio if they don't have their attitude together.

Get out of school and out on the job.

1) Client relations - "How not to be just a button pusher." 2) Client relations - "How to keep cool when you've just erased critical audio." 3) Client relations - "How to keep cool while the building is burning down.

Verbal and written communication skills.

Physics of sound.

How to make shirt tail budgets work for you and how to create and run your own business because that is the way future studios will run.

Paint realistic picture of what they can expect in the audio industry. Fame, Fortune or Glamour should never be expected. Most of the time it is very competitive to get into an entry level, low paying job to work very long hard hours. However, the work is very creative and rewarding.

Creative problem solving, working with basic equipment.

Sales.

How to handle problems with tact.

Working with the real world on the job with people and day-to-day real life situations.

Acoustic recording. Recording a big band or string quartet on remote or in the studio.

BASICS! Like microphone selection, operating levels, signal flow, etc.

Public relations, psychology, etc.

Nothing prepares you better than on-the-job training. Training new workers about the way "Things are done" takes the longest and costs the most. A well trained worker, no matter what they know, is always your greatest asset!

The psychology of engineering.

Session set-up and tear-down procedures.

Psychology and people skills with some business.

Audio for video.

Sales, people skills.

Psychology.

Session "psychology."

Studio set-up procedures with regard to recording needs and studio 'comfort' and 'aesthetics' for clients.

Business writing, communication skills, customer service.

Studio protocol--the difference between (jingles) commercial/corporate sessions and music industry sessions.

Ethics--business and personal. Taking responsibility, accepting consequences. Real life applications--doing what you can with what you have. Settling for Plan B when necessary and living with it.

Communication.

Signal flow. In/out, left/right basics.

I feel community service is an excellent way to pick up actual work skills and workplace etiquette.

Setting up/tearing down gear. Packing equipment. Dealing with clients.

Lighting and lighting applications with sound are a must to know.

Psychology in the studio (dealing with and preparing for clients).

Etiquette in the studio. Editing and splicing analog tape. Tonmeister program which integrates a music education with a recording engineer training program. Music background is paramount.

Studio protocol/ethics.

Office procedures. Customer relations.

Client relations.

Music.

Carpentry: learning how to make road cases and use tools required to build speaker cabinets.

Systems packaging, wiring, trouble shooting.

Basic electronics. Construction skills.

Acoustics and sound.

Critical listening skills, common sense skills, learning skills. All the technical skills in the world are useless if the person can't listen and think for themselves.

General business practices, client relations and service. How to present (sell) audio services.

How to get along with clients and work ethic.

Commercial production, i.e., most students come to me bringing an experimental sample reel. Advertising, commercials, script writing, selling through visual communication.

In case I wasn't clear before (my tongue is firmly in my cheek) communications, motivation, economics. Technically: 1) Phase relationships; 2) Acoustics; 3) Structural dynamics.

Basics are more important than specific equipment training. I have had a number of four-year graduates in audio engineering not being capable of tracing signal flow, or micing a stage. They had good theory and equipment knowledge but very little practical experience and knowledge of system integration.

Must emphasize fundamentals of basic physics and acoustics. What exactly is a sound and the role transducers play in its manipulation.

*Feedback
*60 cycle hums
*Neon bar signs
*Irate road managers
*Inept stage hands
*Diplomacy

Psychology.

1) Gain structure
2) Electricity
3) Phasing
4) General wiring practices

Sales training. Without the ability to "sell yourself" to a prospective client I believe a studio will have a very difficult time surviving. All the technical information in the world will not help in any business until the chance is obtained to display the knowledge. (In my opinion.)

Working to "specs" whether valid or not. Business "protocols" and sales.

Dealing with clients, the psychology of session management, artistic contributions, good judgement, creative use of equipment and it's capabilities, and so on. In general, a lot of "stuff" not related to the technical aspects of audio production.

Patch bay.

Customer relations.

Client/engineer relationships, scheduling, predicting project times, efficient studio use.

Ear training, mic technique, client relations.

Most students we've been exposed to learned on a 24-track, or 2-24 tracks, 60 input board, 10 multi FX units, 15 pieces of outboard gear, etc. And if you give them an 8 or 16 track, 1 reverb to put together a video or AV soundtrack, they think it can't be done. More hands-on experience with real world systems.

Musician psychology. Being successful in this industry is about 75% attitude and human perceptiveness and 25% knowledge of equipment.

Training in cultivating new people in local bands, groups, etc. to come and record in the studio they are employed in. So many seem to think their place is at the console in the sound room. But to survive one has to get out and mix and mingle with the locals to get people in to record or use other services offered by the studio.

Interpersonal skills (which can only be developed through actual trial by fire production work).

Again, I cannot stress enough the need for strong communications program that focus on: interpersonal skills, self-expression, basic psychology and sociology, and the art of dealing with people. Trouble shooting/system analysis.

Building structure as it relates to safety in rigging.

All communication skills (public speaking, reading, and writing).

Physics of sound, music business law, copyright law.

In the field, work is very important. The pressure of seeing the job through and overcoming obstacles. Particularly when a paying client is involved.

The psychology and dynamics of a typical recording and/or mixing session. The tense nature of the musician, the egos of artists, the ignorance of some customers to the recording process if they have never recorded in a studio.

Economics of small business! Payrolls are only met through sales. Too many students don't understand the basic premise of business. The bills don't magically get paid without income, and yes, even profit.

Getting the most out of any recording situation by using their skills and not relying on expensive state of the art technology.

Working with people, trouble shooting.

Basic business skills.

Again, attitude and demeanor are paramount. This is a service business, entry level applicants must think like servants. Secretarial skills, attention to detail, attention to client/session needs. I don't know how you teach these things (a stint as a waiter/waitress?) but a person with the right attitudes will fly past those without "proper" attitudes.

How to survive physically and mentally while looking for a job!

Communication skills, interpersonal skills.

Conceptual thinking processes. We need people who have not learned systems by rote but truly understand the basic concepts of the equipment they will be working with.

Going through the entire process solo.

How to deal with clients, musicians. Specific use of mics; sounds of instruments. How to scan a music score. Acoustic treatment of recording spaces.

Teach them how to prepare a proper freelance invoice and how to handle taxes as a self-employed person.

Group dynamics, psychology, diplomacy, physics of music, acoustics, importance of paperwork and logs, cleanup techniques.

Possibly songwriting or song construction courses.

Basic audio signal terminology, basic electronics, basic digital electronics, basic analog electronics.

Internship.

Internships should be mandatory, working for a variety of potential clients (i.e., producer). Reacting to pressure/stress.

Teach them how to be part of a team.

Systems grounding and gain structure and system flow (equipment will change yearly).

Appendix H

Question #16

Listing of Specific Gear

Appendix H

Comment responses to Question #16:
Is there specific brand name equipment that you feel students should be specifically trained to use?

N/A

Signal processing. Gamble, ATI Paragon. Be able to run Midas XL-3.

Too many manufacturers. Each with their own system.

Any pro format equipment.

Train on "All" brands.

Sony.

Equipment varies too much from facility to facility.

Protools (SoundDesign), ADAT (Alesis), 480-L (Lexicon).

For my business, the standard is pretty much Sony, Ikegami, Sennheiser, canon or Fuji lenses, Sachtler, O'Connor, Gitzo, Beta SP, D-2, 3/4 SP, Nagra.

Versatility is #1.

Training should not be specific to certain brands of equipment.

Mac Performer & Digital Performer. Sound Tools.

SSL, Neve, Macintosh. Actually a well educated student will be able to pick up any system!

All brands! In reality, the student shouldn't learn any one brand. Don't teach them how to use a specific piece of equipment. Teach them to understand what the hell we're doing. I don't care if he knows a Neve or SSL, does he know the concepts of split and in-line consoles and can he then apply that to any console? To understand, reason, think--not memorize.

There are many, many areas of music equipment involved: Drum machines and samplers--Most popular are: AKAI MPC 1200 Sampling drum machine, Roland gear - R8, 808,909,707; Sequencers - Yamaha QX5, Keyboards - AKAI, Roland, Yamaha, etc., Sync Systems - JL Cooper, Aphex; Consoles and Tape Machines--(Most functions are universal, we use:)Tascam and Otari, also recommended MCI,

Soundcraft, TAC, (Neve, SSL, Mitsubishi are the best but not practical for mid-line studios); Mics--Shure 57,58, AKG D112, 414, Sennheisers, Neuman U87.

Every studio uses different gear. Need to get basics--what we teach here.

Macintosh: Sound Tools, Studio Vision, Performer, Samplecell. AMS audiophile.

Theory of general practices will lend itself to any brand name.

Any good system regardless of maker.

SSL, Neve.

Macintosh computer.

But I think the higher quality gear the better.

Neve consoles. SSL consoles. Otari multi-tracks.

Most are quiet or overly assertive. Internships should stress the politics and public relations that are involved in servicing and maintaining clients.

No particular brand, but trained on a state-of-the-art 24-track analog console and 24-track recorder.

Post video/film mix equipment.

Yamaha. If an engineer can find his way around a PM-3000 and a SPX90/1000, most other consoles/effects will be easy to figure out with or without manuals or instruction.

Top or the line gear and bottom (common) of the line gear. Cheaper gear will be encountered a lot more when the student searches for a job. I think he must be prepared for inconsistencies in equipment. But at the same time they need to be exposed to "the good life."

S1100 sampler because it is widely used in most studios for R&B, RAP, and industrial music.

Macintosh mandatory, from MIDI to word processing and spreadsheets.

I think that depends more on the personality of the person. Some people are "people oriented" and can work better with clients. However, good sales and public relations techniques can and should be taught.

Digidesign Sound Tools/Pro Tools.

Soundcraft consoles; Yamaha console (PM3000 only); TC Electronics (all models); Lexicon; Eventide.

Students should be exposed to the widest possible array of equipment (old and new). Some of the worst engineers were trained in new, state of the art automated and digital studios on campus, and they fall down in the real world with the real gear you see at the entry level. Basic knowledge of many types of equipment is far better than proficiency on one or two pieces.

Everything. This is impossible I realize, but exposure to every possible piece of gear makes it a lot easier when the engineer says, "I want delay on the snare," and doesn't care to tell the assistant which device, how to patch it, and train them on set-up procedures.

SSL, Otari, Mitsubishi, Studer.

Major brand tape machines (analog and digital), major brand consoles and automation systems. Good cross-section of outboard gear (compressors, gates, etc.).

Otari tape machines, Macintosh computers, ProTools software, AKG mics.

SSL, Trident, Neve, Otari, Studer.

Obviously if they have experience on our particular equipment, great! However, a well rounded selection would be best.

In general, Mac based systems (automation, digital workstations, hard disk recording systems, Synclavier, etc.).

Appendix I

Question #17

Evaluations of Two- and Four-Year Graduate's

Interpersonal Skills

Appendix I

Comment responses to Question #17:
Do you feel that students entering the workplace from two- and four-year educational institutions have the interpersonal skills needed to work effectively with clients and in workteams with colleagues

Sometimes, but that depends mostly on their individual personality.

Not enough experience with students, but interpersonal skills appear to be personal. That is, it varies with individuals.

Generally, not, however, a 4 year (or greater) student seems to have more of these skills & maturity to deal with others.

But they are quicker to learn how.

Only after experience.

Sometimes. It's totally up to the individual.

No, unless they have had 25-50% of the training in the field during at least the Jr. Sr. year.

They need experience in order to make good judgments.

Although that depends on each student's personality.

With proper attitude. Previous customer relation experience helpful.

There isn't any classroom than can mirror the real world.

Haven't had to earn a living, meet a deadline (unless Journalism students), make a car payment, sleep in a hotel, hold back from speaking at the wrong time.

Some do, some don't. Not a product of education in my experience.

Depends on individual.

General great lack.

This requires experience. In school, you get very little "real world" experience.

Know-it-all attitude.

The student's interpersonal skills don't seem to be effected by school as much as by their own life's history.

That is why I teach at Columbia College!

Most students I meet have unrealistic and unproductive people skills.

Schools do not teach students the people skills that are necessary when dealing with high strung, egotistical, etc. artists.

Individual traits--work experience and internship experience are helpful.

Most institutions do not focus in this area. This may be the "make or break" skill for an engineer as his/her sales/communication skill may, and in most cases, affect their potential livelihoods. You still have to sell: yourself, your skills, your room and follow your work all the way through and reinforce these areas throughout the recording process.

More likely than 'short courses.' This is my emphasis: Communication skills are as important, in many cases, as technical skills.

Customer service skills are weak unless they have had work experience with basic sales training. Also, research skills, use of trade journals, consumer education, budget management, daily account balancing (A/R), invoice processing.

It just depends on the person.

Not always. Some do, some don't. Professional attitude, no ego, teamwork and competence.

Some do, some don't.

This is what interviews are for. How ever many years on the job or education will never determine how effectively they will relate to others. It's what's inside them that counts!

College degrees are great and understanding the theory of electrical, electronics is most important. But theory without hands-on training is a bust. I will only hire people who have some actual work experiences from theatre or concerts, etc. They must understand the politics and ethics of production and related work.

Depends on the student and their personality.

Of course, this depends on the individual. I would say that about 70% of the job as recording engineer is dealing with the clients.

Too often students entering the workplace are not willing to start at the bottom. Traditionally, each facility has its own way of doing things. The new person should not be set in their ways but, instead, should learn the operation as managers wish to teach it. New employees should receive good pay and benefits but need to become accustomed to how a certain facility, where they are new, works. Keep eyes and ears open. Arrogance is out.

This can only come from experience in the workplace.

After being approached by 3 or 4 potential applicants they all are more concerned with how great their training is versus how well they can fit in and benefit my clients.

With workteams-Yes. With clients-NO.
Some do, some don't. Generally we find that the educational institution has not stressed this area enough.

This question is too general as it deals only with education and does not address "personality" which is the true measure of one's ability to work in workteams with colleagues. Education is truly important, but if Charles Manson had a degree, I still wouldn't hire him!

They should have, they don't necessarily have just because of their "education."

Determined largely by the individual. A 2-4 year education implies a sense of "stick-to-itiveness" but interpersonal skills can best be evaluated on the job.

Most students are cold and scared of not only the equipment, but also the need to work with others.

They lack experience dealing with people.

I feel only experience gives you the skills to understand and work well with clients and colleagues.

Not enough emphasis as part of curriculum.

As stated earlier, students in a four-year program seem better prepared with "people" skills. New hires are teamed up with experienced employees for at least three months before "soloing."

Interpersonal skills are the hardest thing to find in potential employees since only real world experience can prepare someone for dealing with personalities who think they're stare. Employees need to understand that sometimes they'll hate the client

personally but the client can't know this. If he wants the staff to think he's a star, the employees must let him believe they think he is. Perhaps a better name for the job would be "Sound Politician."

All of the grads I have spoken with are very unconfident when it comes to presenting themselves.

Most can't differentiate between the client who wants creativity vs. the client who wants a button pusher.

I've sort of touched on this. Most "fresh" students are so ill-prepared to deal with corporate and agency clients that they pose a potential problem for most facilities. Perhaps in place of interning at a recording facility they should intern at an advertising agency or corporate video department. When they understand how those people work, they'll be ready to engineer.

They seem to lack the confidence that comes with experience.

Some do, some don't. It depends on personality and level of maturity.

Not relevant. It's the person, not the schools. The schools are focused like your ten previous questions.

Just because you've gone to school doesn't guarantee any of the above.

Most graduates have no idea about what really happens in this industry unless they take it upon themselves to find out.

An entry level employee may wait a year or longer before working with clients.

Depends on the individual.

In general most students that go to school to enter this business miss the boat concentrating on technical and hands-on courses and forget about traditional education.

My experience with people who have a trained background is very limited. But the times I have, the persons sometimes acted as though they knew more than the people who had spent many more years in the field.

There are no encompassing answers. People are singular.
After some experience on the job.

Maybe.

Every student is different, can't answer.

Sometimes, depends on the person.

There simply is no real world experience in most curriculums. Students may graduate a whiz at institutional sessions but are ill prepared for the first "pro" session with producers with big attitudes (and big budgets on the line). The pace and tension do no a great learning environment make.

This is not automatic with a degree. Attitude has a lot to do with getting in a door and success. We can teach people what we want them to do, but we can't change attitudes.

It depends more on their personalities than on specific training as to how they relate to others.

Depends on the person, their outside work experience can help develop these skills.

Many seem to lack the ability to set aside egos and learn from those who are more experienced. Many times we get people who have learned things in a "particular way" and seem to have a lot of trouble learning an alternative way of doing things.

Usually. Remind them of chain of command. They shouldn't be talking with clients unless their boss advises it. Too many cooks, etc.

Rarely.

It definitely depends upon the person.

Apprenticeship is essential.

Only time can develop the etiquette skills required to work in the studio. That is where an internship is very important. By watching how to act and react to situations.

This has improved in recent years, but still needs attention.

Big No! My biggest gripe. All the equipment knowledge means noting if you can't work with clients and fellow employees. This can't be said enough!

Appendix J

Question #18

Evaluations of Two- and Four-Year Graduate's

Communications Skills

Appendix J

Comment responses to Question #18:
Do you feel that students entering the workplace from two- and four-year educational institutions have writing and verbal communication skills that are adequate to ensure their success in the audio industry?

Well, after high school, an individual should be able to write & communicate effectively, so I don't look for anything special from college grads in that area as opposed to those recent high school grads.

Not enough experience with students, but writing and communication skills appear to be personal. That is, it varies with the individual.

Generally not, however, a 4 year (or greater) student seems to have more of these skills.

But they are quick to learn how.

Sometimes. It's totally up to the individual.

Most can't spell or write clearly, are not well-read and seem pre-literate, thanks to TV.

Enough for a good start. This is always a growing process.

The only thing than can ensure someone's success in this business is their natural talent and ambition to strengthen it and learn more.

These skills seem to be emphasized less and less while technical, hands-on training with specific equipment replaces English, literature, speech courses.

Highly variable.

I have not seen it. I believe in general educational institutions have missed the mark. I think or wonder if a person would be better off coming to a company and offering to work for free for two years rather than going to school.

General lack of basic skills which most of could be cured by the use of computers.

Every resume' we receive is poorly written, poorly presented and seems to be copied from a "sample" from a school. How can college grads compete without the most basic verbal and written skills?

They do have head knowledge but lack practical applications.

The best teacher for that is experience. Put the student "in the game" running the studio in every aspect with supervision of course! They should put it all together.

In most cases.

Some do, some don't.

Most do not know the technology terms used in the audio business. They may know the technology but cannot present it verbally to a client or an associate.

Depends on the student and their personality.

Verbal skills are often poor. Writing skills are generally poor. Students often have the idea that a music recording career does not involve expert verbal/writing skills. On the contrary, skilled and articulate speakers help solve client problems with sensitivity and diplomacy. Well written quotations and business plans are always better received than awkwardly written versions. Too often poor speakers are poor listeners.

No guarantee.

No amount of education can ensure success in the audio industry but it can definitely tilt the odds in your favor!

It's up to the individual. If they have a good attitude and a sincere desire to be in this industry, they will be successful.

The more communication skills the better.

Some do, some don't.

Actually, "Yes" may be more appropriate because we are always lowering out standards to accommodate what we can find to hire. But to achieve the levels we should be able to reach we must return to actually teaching them something, not just fulfilling our curriculum and lesson plans.

The weakest link has been communication skills. Two and four-year students are better prepared than high school graduates for the most part.

Some do, of course. But far too many are more interested in becoming overnight rock stars. As indicated above, this is #1 on my list, so I look for the very few who qualify.

Grammar, writing skills and spelling seem to be getting worse. There are no guarantees.

It isn't about writing skills! It's about being a cognizant observer, determining where the client is coming from, what his needs are and filling them. You can't teach this!

Yes, writing. No, verbal.

It's tough to find someone interested in audio production who is also well-read and can write.

My experience was and it continues to seem to be that there is not enough emphasis placed (at the educational institution) on the preparation of coherent reports (or papers, etc.).

Again, I feel there is an over emphasis on technical skills and a lack of emphasis in communication and other skills.

To ensure success in the audio industry one must have perseverance, a good attitude, and the capability to be flexible.

There are no encompassing answers. People are singular.

They should!

Sometimes.

Although written and verbal skills are not strong points needed in the recording studio, good ears are.

There is basic lack of verbal skills especially in communicating about equipment interface and function. Understanding the equipment and being able to use the proper nomenclature to describe those functions is problematic for those coming to us.

Almost never. Many don't know how to use a pencil.

It also depends upon the individual.

These skills have little impact upon success.

From my own experience, I have noticed no difference between those with a degree and those without.

Needs more attention, particularly writing.

Appendix K

Question #19

Respondent's General Comments on Student

Preparation by Post-Secondary Schools

Appendix K

Comment responses to Question #19:
Are there any general comments that you would like to share regarding the preparation for the workplace that students are given in post-secondary schools?

Every facility operates differently, in my experience, so although trade schools or college can give you some insight, it can not prepare one entirely for their experience.

Be prepared to do anything anywhere anytime and expect little money!

So much in this business depends on training and experience. Training comes from the schools and up to date equipment is not always available. Experience comes from jobs. Hard to get!

Hands-on experience is of paramount importance.

Students should be able to read, reason, and deduce. They should be taught how to get along w/ fellow employees. They should learn that attitude is everything!

Even after formal education students need to keep updated on new procedures and equipment. The colleges need to work with area sound companies to balance out the education that the students receive and to give them the hands on training needed.

I teach at Wayne & Oakland U. and find students that enter my class have a "Hollywood" impression of what it takes to be a good engineer. Unfortunately the market has changed. Everybody who can afford a piece of equipment is now a professional studio. This has cut into the market such that knowledge is no longer important. Who you know makes it. "Gimbals" "Hooks" etc. sells like trade schools in recording. Niche recording, like tailoring equipment brandnames to R&R or R& B make studios draw. After 23 years of perfecting my craft, keeping current in self studies, I have seen new pieces of a puzzle that doesn't exist. I would like to speak in more detail on this subject.

Any "Real World" experience is the edge that any pro employer seeks.

Education is fine - but to succeed you must be: A) A people person - not socially retarded. B) Willing to do anything to 'make it work.' C) Relaxed. D) Good at 'tricks.' E) A good listener. F) A person with the right attitude.

Most people we encounter that have formal schooling are well prepared as far as technical knowledge. But often lack skills in human relations. We must not forget that without our clients, we could not be in business.

The emphasis on vocational, job-skills training in colleges, along with the proliferation of electives and the dismantling of the liberal arts, was a major curricular mistake. We need people who can think, dream, and invent.

I think the market is becoming flooded with people looking to work in the audio and A/V areas.

Personality & attitude & communication are extremely important. Dealing with artists & musicians everyday is like being a part-time psychologist, part-time babysitter, and part-time cheerleader. And the ability to work long, long hours.

Four year degree or any amount of education carries no guaranties. Good work positions usually go to the people who earn good reputations. Even if it's just a personal reference on a first position out of college. Most full-time positions go to engineers you already know, since they freelance.

Would like to see more people who have worked in the business instructing students. They could lend some insight as to what is really important and what is just "theory."

Knowing how to prospect for new clients.

Hands-on experience with realistic schedules.

There is a major difference between what is taught in school and what is needed for most working situations. Fundamentals are greatly lacking. Schooling is geared too much for the "Big Time" and not enough focus on day-to-day down in the trenches work situations.

I wish I had more time to write you an answer to this question!

There is a great deal of concern as to if this "art" of recording is a teachable subject. You can teach someone how signal flow should work, how to calibrate a tape machine, and advise them on proper mic choices. But I question the ability to teach the "golden ears" necessary to properly mix music. I have been involved with several programs in our area, with varied degrees of success. The better one always teach ear training and critical listening. Frankly, I can teach someone how to operate a multi-track tape machine in an hour or so, but it takes years to teach "ears." For those without ears, there are plenty of jobs doing AV production and duplication, etc. The problem is that no one wants these jobs. They all want to move to LA and can't

understand why nobody will hire them to mix the latest pop record. I need people who can pick the right mics, make it sound like the source, edit tape FAST while surviving on little sleep, punch in on a dime, know how musicians interact and what little tricks will please them, and won't mind emptying the trash every few days. Additionally, a little business training couldn't hurt. If someone wants to be a musician, we send them to piano lessons. If someone wants to be a recording engineer, we send them to recording school. No one seems to train them to develop business, close a sale, execute a contract, deal with agents, manager or attorneys, etc.; the things that would be learned when training for almost any other occupation. It would be nice if these people could work for some companies that could provide a good sample of the industry.

1) Attitude. 2) People skills. 3) The ability to record with microphones. Most student demo tapes I receive have very little live instruments, i.e., drum machines and keyboards. Drum, piano, and string miking are not taught effectively.

Students should understand that recording is a business. It may look glamorous, it may seem like fun, but first and foremost it is a business. Also, they should be told that there are very few job openings right now. The combination of economic recession and intense competition have taken a big bite out of studio revenues. Students who wish to become recording engineers should know that they are choosing a difficult path.

People skills, people skills!

We need people who can "hit the ground running." A level of skill and confidence to start working immediately. We are looking for a level of maturity sufficient to deal directly with clients and work cooperatively with other staff members. We don't expect new hires to generate major dollars immediately, but we don't want them to lose money or accounts either.

Sales, sales, and more sales! Most studios need engineers to be good sales people and those who do not have this skill are often overlooked, regardless of skill.

Experiment with audio tools as much as possible before you get a job. Work hard. Work on people skills.

If it's anything like my college days--which was not that long ago--it is too much memorizing and not enough "understanding." Don't get me wrong, I thank the practical experience is great and valuable but only if it's coming from a background of thought and understanding.

Overall, the greatest weakness I have observed is a general lack of basic business/service awareness. "Customer is always right" does not seem as ingrained in entry-level applicant attitudes as my peers. I would hope that business basics would be drilled at the college level and a basic understanding of product-based capitalism be understood.

A basic knowledge of how equipment works in addition to how it is used. You cannot train on a special piece of equipment specifically because the same type of equipment made by different manufacturers operate differently. A Soundcraft console and a Yamaha console perform the same function in the audio chain but each one operates differently. A basic knowledge of how equipment operates would aid in troubleshooting and repair. It seems that most people think that this is a glory business and that they will make tons of money right out of school. It is not a glory business and there is not much money on the bottom of the ladder. It is a hard business that takes long hours and a little luck to survive. This business is not a 9-5, 5 day a week business.

Make sure that they can communicate with others. People skills are a must!!

I think audio classes require individual attention. Technical knowledge should be stressed, but hands-on skills are most important. The best way to learn is hands-on, in conjunction with "ear training."

Along with a technical business recording is very people oriented and personal. The inter-communication in the recording environment can make a world of difference.

Most students could use more emphasis on the following from their educational institutions: -General computer usage. -Interpersonal relationship skills. -Music background. -Attitude and dependability.

They need to work in the private sector if at all possible. Hands-on experience and general knowledge is very important.

Most don't have any idea what an orchestra sounds like.

Those who focus their energies and take their training seriously are the ones who stand the best chance of succeeding in this highly competitive job market.

Students need to be trained to use their ear and their minds above everything else.

Many are cocky--do not know the fundamentals of audio recording. We use the latest digital technology, however, without understanding live musicians, acoustics, mic placement, etc., all the new gadgets just make noise--not music.

Place students in a work-study program with independent audio studios. They can learn more about the everyday operations of the business and also the many different projects the facility must produce and deliver on time. The most frequent comment we hear from students is, "Gee, I never expected this." Students quickly realize that he or she must be flexible and be diverse in many areas of the audio industry.

The majority of applicants are simply not familiar with fundamentals (Do I mean analog?) of: 1) How to commit a quality signal to the mixer; 2) What signal processing is and does; 3) Signal flow in general; and 4) If you don't know real sound to begin with, how will you know a faithful reproduction of it? (I realize this last point may be moot from a creative standpoint, but we do need some kind of a yardstick. Picasso, you know, did do some fairly realistic drawings in the days before he sampled.)

The most difficult traits to find in prospective employees are not technical. We look for people to be able to think and communicate. By comparison, technical skills are easier to assimilate if the new hire has a good grounding in basic knowledge.

There exists a need to differentiate audio applications in ideal circumstances, studio environments, and sound reinforcement. Too many cannot cross effectively between applications.

The best approach to teaching live sound reinforcement techniques is to reinforce classroom study with some type of experience. An internship of no less than one year with a professional reinforcement company will give students the basic training needed to gain full-time employment in the industry. Even with that background, however, there is no guarantee that all professional companies will consider the candidate to be qualified.

Before institutionalized education was available only on the job training was available. This provided the people who would last an education in almost every type of situation possible. This has been lost, making educated people very one dimensional. The loss of "Apprenticeships" in any field has made the use of "Tools" more important than skill itself.

In addition to the above comments, I think the schools do a poor job of preparing students for "real world" jobs. Not enough attention is paid to non-technical skills, such as writing, oral communication, dress, neatness, being on time, etc. Also, I think

the schools (this is a generalization) turn out too many graduates for the number of jobs available. Studios are closing, budgets are down, and more and more audio engineers are being cranked out of school looking for jobs. I believe many schools take their money (the student's) and don't offer a realistic set of expectations for employment.

The client is the boss. Be ready to put in crazy hours. Don't offer additional information beyond the job at hand. Self-motivation and initiative is second only to giving the client all he wants, needs, and then some more. If you don't love this work and consider it your goal in life, then sell insurance.

No student should major in audio engineering, even if that is a career goal. Audio engineers who wish to record music for a living should major in music theory or composition. Engineers who wish to work in video post or advertising production should major in English or Psychology. The fact is, any idiot can be trained to push the right button at the right time, and, therefore, the technical aspects are very much a secondary concern. A student must have a natural gift for "hearing" and this can not be taught. These natural skills should be a grounds for testing and acceptance into any audio engineering program, much in the same way a piano player must audition for acceptance to a music conservatory. A large void also exists in the educational process. Audio Engineering, in many cases is being taught by people who have no "real world" experience. At the same time, most facilities are owned and operated by people who do not have degrees in audio engineering, and have no desire to get one. Furthermore, most universities are unwilling to hire successful "real world" engineers because they lack a degree in their field. And most of these people were engineering years before any university offered any training in this field. This issue needs to be resolved, and until it is, students from any school will have difficulty entering the work force.

They need to learn techniques not just how to use a piece of gear. Flexibility is important. You must be able to adapt to a given situation.

Listen! Develop your ear! Appreciate all forms of music and sound, including natural sounds.

Work, listen, pay attention, and never think you know it all. Try to keep up with technology, but remember the basic rules and K.I.S.S.

Please stress overall liberal arts background, broad knowledge.

The only real preparation of people for my field (large scale sound reinforcement) is for the school to produce many and varied productions with hands-on operation by students.

Get a good liberal arts education. Learn everything you can or want to. Don't miss the opportunity to investigate all avenues of interest that you have. You will never have this chance to do and see so much again. Don't bury yourself in a console, you'll be spending your life there--if that's what you really want to do.

The number one thing in the real world is to have a good attitude and learn to listen.

First, let me say thanks for the chance to be a part of your information gathering process. As you may well tell we are not a large studio and the studio is not our only means of income. But we are open to the public and we do a fair amount of work for our area. As a small studio we are able to work with a great variety of recording situations. We get the vocalist looking for his or her first demo to the experienced groups who are producing their own album. In regards to preparation for the workplace one must be ready to take on anything that comes along and do the very best that he or she can. When it leaves your hands and your name is on it, that is a statement of your work so it had better be right. With the way the economy is going, or not going, it is very hard to see what the future of audio holds. The bottom line is that if you really want to work, it's out there and it's just a matter of finding it and holding on!

As I stated, there is a lot more to a recording/mixing session than just the technical aspect. The engineer must be sensitive to the artist's emotions and needs. Whether it be your helping them to understand the recording process if they have never been to a studio, or to help them relax if they are nervous, to be firm if they need discipline, to telling them they are singing or playing flat or sharp, and so on. After owning and operating a small studio near the Smoky Mountains in Tennessee for eight years, I can tell you that you never stop learning, and you can never afford to. Although my studio is only a small one (16-track) my reputation is that of a studio that provides the best sounding tapes in the area, and it is not because of my equipment. First, and most important, it is my God-given ability to translate my memory of how music is being mixed and how it sounds today to how my studio can recreate that same sound. This requires hand-eye-ear coordination during both the recording and mixing process. Secondly, it is my ability to put the artist(s) at ease in the studio situation. Check out my work on the Warner Brothers/Sire 3 song, "Maxi-Single" CD release from the Judybats Summer 1991 release.

"Attitudes" need to be left back on campus...shed with the cap and gown/fraternity pin.

I think it very wise to learn the technical aspects of recording and to be familiar with the textbook jargon but the graduates have to realize that once they get into a creative recording

environment they will have to "forget" a lot of what is "technically" correct and go along with the producer/artist's wishes and (shock horror!) start using their ears instead of the meters! Mike techniques have been seriously overlooked in the last ten years as more and more entry level engineers plug in drum machines, many not even knowing what a real bass drum looks like!! I also think they should be made fully aware of the financial side of the music business, i.e., they will be exceptionally lucky to make a living out of it.

It is very important to be trained by people in the music business.

Simulate real situations, real problems.

Kids need to have a realistic idea of the workplace, their skills and talents, how tough the job market is and get the glamour idea out of their head.

In Nashville, and I believe likely in LA & NY, entry level positions are quite often living hell. You will be under paid, over worked, and under appreciated. Unless your Uncle owns a studio, if you want to play in the big leagues (major label sessions, major studios) you will have to put up with that situation. Unless the student is slightly deranged, masochistic, and can live on soup and crackers, consider a career as an insurance sales person.

Need more foundation training. Basic machine maintenance and alignment, signal flow and routing, efficient session procedures that work in real life studio environments, and strong emphasis on the value of several internships at more than one facility for a broad scope of experiences.

We have participated in the internship program through the local university throughout the last eight years. More often than not, the interns we have experienced have "gotten more in the way than were useful," says our Chief Engineer. However, the last one was a female who was very serious, very knowledgeable, and very understanding. We have since hired her and she is still with us today. What made her different than the others? She didn't mind doing clean-up, making coffee, running errands (we all do these menial tasks here), she didn't get in the engineer's way, or say stupid things. She is very responsible and a quick learner. We let her do her own sessions in about six months on the job.

Teach people to think!

Volunteer your time. You'll be noticed and eventually rewarded. Don't claim to be good at everything, few are. Learn what and IFB system is and how to set it up and use it.

Audio-visuals in high school Video production in high school. Computer class in middle school or high school.

Schools such as yours should stop trying to "poll" and "please" a group of largely ignorant "studio managers." They are often musicians who couldn't play enough to make a living, or a barracuda secretary who fought her way to the top. Teach the basics: sound, physics of music, basic acoustics, basic electronics, and most of all, weed out the unbalanced egotists, they will not work well with musicians.

I definitely prefer people with music backgrounds. I think their ear for music is important. I know that music theory courses helped me.

Stop preparing students for a workplace that is overstocked with applicants.

Education is great, but when you get in the workplace it's a whole new adventure.

We have used interns since 1962-63. Have seen major improvements in recent years. Four-year students have an edge over trade schools, where I have been very disappointed! They (trade schools) are not giving students the real picture in regards to salary and work expectations.

It's a people business.

They still have to work up in the industry.

Appendix L

Question #23

Respondent's Suggested Questions

Appendix L

Comment responses to Question #23:
Are there any questions you feel we should have asked, but didn't?

This questionnaire is geared for the studio person not the live soundperson. Please include more about live sound.

Work ethics of applicant, i.e., can he be where he suppose to, when he suppose to, most of the time.

I think you're barkin' up the wrong tree. Spend more on interpersonal, psychological, etc. and less on equipment, brand names, etc. Hire motivational speakers, etc.

Where is the market going?

Have you ever considered arranging an actual S.R. field trip for your "upper class" S.R. students?

Are you a one-man operation that will never hire anyone?

Ask respondents what their training and/or educational backgrounds are. See if they are just pushing for students to "be like me."

Are you a graduate of these programs?

Trade.
Two-year.
Four-year.
Short course.

I don't have time to continue, but: Are there jobs out there?

Perhaps try to get an understand of the scope of different internships. It would be interesting to see what different studios are doing.

Entry-level salaries, students' expected salaries.

What entry level salaries do graduates expect?

What skills do you consider most important for a graduate entering the work force?

Questions regarding personality, preparations for dealing with public and clients.

Questions pertaining to personality and real-life relations with clients can be more important than formal education. I would wager that most "Producers" don't have formal training in their chosen field. Engineering skills can be taught, but musical instincts cannot.

Do you feel a student should be exposed to live performance music?

-Classical
-Jazz
-Pop

Comments on qualifications: 1) You must provide audiological education. These kids have to be shown what results from long-term high SPL. 2) You must give audiological examination and provide them with the audiogram. 3) Support movement to reduce SPL in studio, control room, and in concerts.

What are basic course preparations needed for audio training.

What level of training (school) do you have?

You didn't ask me if I had a degree (ha! ha! I bet you can guess the answer to that one!).

Find out what makes successful people in this business. It's not the educational background. EVER!!! To my experience!

I would have asked more about our estimates for growth and advancement for new members of our industry.

I hope that by some of my answers you can tell that to me it's not so much a person's skills in this business as it their attitude. With my twenty-five years in audio I much rather take someone on to work who knows nothing but is willing to work hard and learn as to have to deal with someone who may be set in their ways and unable to go with the flow. A possible question could be: How important is versatility? Can you get the job done with the client thinking all our great ideas are theirs, and be ready to take their really bad ideas and make them work?

What are the proper credentials and training for a studio manager?

1) Starting salary expectations. 2) How long is internship program? 3) What is the application process? 4) Who makes final decisions and supervises program?

Appendix M

Comments to Question #12 by

Respondents Preferring Associate's Degree

Appendix M

Respondents answering "Associate's Degree" to Quesiton #10:
If education <u>IS</u> a factor, what level is most desirable to you?

Comments to Question #12:
On balance, in your experience, have you found those students entering the workplace from four-year or university settings to be better prepared for the job than students entering from two-year or community college settings?

Many expect something other than entry level position for 4 years of expensive training. That's just not realistic.

The level of personal enthusiasm.

It generally adds two more years of maturity and growing up. At this age two years can make a big difference. The education alone might not be that big of a difference.

Attitude, aptitude and people skills are first in priority.

From our experience we have found students better prepared for the job who have a two-year Associate degree. Many of those students have held a job while attending school. They know what is expected of them on the job. They work well with co-workers, clients and the unexpected.

I am basically concerned with the work ethic of the individual, regardless of his or her degree.

It depends on the background and knowledge the applicant has before going to school as to how long it takes them to become competent employees.

Typically, those from a four-year program are better suited--probably more from a perspective of maturity and social interaction--than from the standpoint of technical skills. Getting people with talent doesn't seem to be a problem. Getting people who can work well with other engineers and clients is a problem!

Appendix N

Comments to Question #12 by

Respondents Preferring Bachelor's Degree

Appendix N

Respondents answering "Bachelor's Degree" to Question #10:
If education <u>IS</u> a factor, what level is most desirable to you?

Comments to Question #12:
On balance, in your experience, have you found those students entering the workplace from four-year or university settings to be better prepared for the job than students entering from two-year or community college settings?

4 year students seem more mature & prepared to handle relationships w/ other workers & the clients.

Provided it is a school that has the correct programs: UCLA, U of Miami, etc.

Many expect something other than entry level position for 4 years of expensive training. That's just not realistic.

Audience is primarily college professions, students, and university-trained professionals. The people who have B.A./B.S. and M.A./M.S. level education are better equipped to understand our audience. We have had associate degreed workers in graphic design.

It seems that education is less important than desire and/or attitude.

My impression is that two years doesn't give enough background in both the liberal arts and the chosen field of study. Must know something about Art, Music, Literature, Theater, etc. to work in the Motion Picture industry. Associate degree just doesn't supply than broad background.

Often found to be inflexible, rigid, can't relate to a real world environment, slow under pressure, can't cope with inconsistencies, often don't relate well to stage hands, drivers, electricians, etc.

It is the individual student's performance that must be judged. I received a much better education from a university than a friend who went to a two-year college.

Students from four-year colleges have a broader educational background.

More time to absorb and remember information. You should, in my opinion, have a fully functional studio open to the public for students to operate as a business (in both management and support).

It generally adds two more years of maturity and growing up. At this age two years can make a big difference. The education alone might not be that big of a difference.

I believe four-year college provides a more rounded education and mature attitude to the work place.

Education is necessary but practical applications are better. On job and just know how are best. People skills a must.

In general (from my experience at least), the people better prepared for a job in the recording studios are most likely already experienced (in some way or another) in the music business (e.g., musician, performer, etc.). The educational experiences never made a difference.

We like the well rounded person. In our experience, the student who has completed a four year degree is more motivated, well adjusted (socially and professionally) and flexible than students from two year schools or short coursework in recording. These short, X-week long recording courses are worthless in my mind.

Students from two year institutions are normally self-presentation oriented and will accomplish more.

In the type of music production we do, the engineer's ability to communicate on a musical level is extremely important.

The discipline of pursuing a four-year degree means as much as the course preparation. A person with a degree has made a commitment. As a rule of thumb, entry level training can be completed in a two year period. General knowledge and people skills--a very important factor--require a much greater period to develop.

Principle application is by far more important. Four-year students are biased with theory so lack abilities to respond to situations.

I am basically concerned with the work ethic of the individual, regardless of his or her degree.

I expect any employee of mine to be able to carry on a conversation with my clients, about music and topics unrelated. The higher the educational level, the better. I'll hire someone with higher education and less experience over the opposite. I can always teach skills but I can't give someone an education.

Per individual.

Haven't had any.

Don't know.

Have never hired a student just out of college.

Four-year degree indicates ambition above norm. Experience and education will be important, but we choose employees based on their capacity to learn our business.

No comment.

Nothing can replace the four-year college experience in terms of maturity and growth for someone entering the job market. In balance, college graduates posses the reasoning and cognitive skills needed to succeed at any new job situation. College graduates are more likely to commit themselves to the situation, devote themselves to the job and see it through to the end. They are simply more reliable.

No substitute for real world experience.

No comment.

They don't know any more or less about the industry, but are generally more literate. World view, ability to communicate orally and in writing, self-discipline. These factors enhance the individual.

A four-year program gives an individual a chance to grow personally. Also very important, it gives them time to intern while in school, which may take years before a job position can be found. A graduate from any program is useless to me without intern experience.

It depends totally on the individuals themselves: how serious they are about learning, their attitude, and the ability to do what is asked of them in a professional manner. Doesn't matter if they were in four-year or two-year program.

Usually depends on student's desire to learn and get ahead. Most--the best--sign as grips and stick around and learn other areas too. If we see they're responsible, we'll move them up to better paying jobs. Attitude is very important.

Depends totally on the individual case and there are very few data points.

Most interns have attended four-year institutions.

I find that in both cases they are equipped with little more than basic understanding of the industry. The rest must be digested in the studio by encountering real life situations.

Appendix O

Comments to Question #12 by

Respondents Answering Question #10

Other than Associate's or Bachelor's

Respondents answering other than "Associate's Degree" or "Bachelor's Degree" to Question #10:
If education IS a factor, what level is most desirable to you?

Comments to Question #12:
On balance, in your experience, have you found those students entering the workplace from four-year or university settings to be better prepared for the job than students entering from two-year or community college settings?

Basically, we look for those individuals who have an intuitive sense of sound, past the realm of textbook knowledge.

Most employees don't realize the hours and dedication involved to be successful.

Not always, but usually.

I have found that the amount of training received in their course has proved to be more beneficial than book theory.

You can't learn to be a sound man in school. You have to go on the road and work under "real" pressure.

Education does not reflect attitude, hunger or common sense. These are our hiring criteria.

Our best employee is that with the most real-life experience.

Only two interns, can't tell much yet.

Sometimes a four year students is overly qualified for any entry position.

The college grads still don't have much practical knowledge due too inexperience, but come with a know-it-all attitude.

The people best suited to this line of work are those who can get along with people under many stressful situations and not lose their cool. Of course they must have a very good musical "ear," but the rest can be taught by doing.

Two-year community college students seem more interested in starting to work and learn the biz from the beginning. Four year kids are a little more eager/less patient to make their mark. Four year students turn-over much faster also.

Education is important, but attitude and willingness to learn are usually more important. Entry level students with a good attitude come from all areas...trade schools, two-year, and four-year programs. I can teach anyone with a good attitude.

Basically because of more experience and being more mature. There are always exceptions to the rule.

The field is a very difficult field to enter. The less educated students (as opposed to those with B.A.'s, etc.) are willing to work harder to attain their goals.

We look for the "right" person; a combination of knowledge, training/ability, experience and ATTITUDE.

They expect to work hard to prove and earn their positions. College grads have an attitude that you owe them.

Job training is important but "the will" to work hard in the production business is more important than any degree. Our business in not a 9-5 job but a 24 hour, 7 days a week endurance test!

1) It seems most four year college grads are somewhat molded in their ideas of accomplishing a task at hand and do not have the real world experience needed in the concert sound business. 2) Most four year people do not want to work on the road and haul equipment. 3) Pay does not justify a four year degree.

Trade programs offer more focus.

We have people with four-year degrees. However, none are music industry related.

Four-year students have greater over-all education. Two-year students seem to have more ready-to-use hands-on experience, plus are less concerned about getting their hands dirty.

Attitude and the willingness to learn are the most important factors to me.

Two-year programs are usually like trade\schools; are job task oriented, i.e., hands-on, get the job done.

Colleges spend too much time in developing small amounts of knowledge or a broad spectrum to topics. Specialized training (What a concept!) needs to be addressed. This, along with communications skills and work ethic is regularly overlooked.

The only factor which is relevant in the live sound reinforcement field is experience. You cannot learn live sound in a classroom.

Everyone starts on about the same level. People have different strengths, obviously, but learning the politics of the sound business is something only time can teach.

Longer in school, farther from workplace. Clinical vs. reality. Expectations far exceed what is available.

This studio is very young. My business flow is not great enough to support more employees. Thus, my lack of contact with schooled individuals makes it hard to answer this question.

Any student fresh out of college (2 or 4-year) is generally ill-prepared for any studio position and I have not seen much of a difference either way.

Four-year college usually are trained for other careers or interests. Expect too much money. Aren't more qualified in any desirable way. No good schools for engineers that teach reality.

It depends on the individual--motivation.

School can be very beneficial, but engineering, client relations, etc. is an art that can't be learned from a book. It's far more involved than that.

I have found, to a person, that persons with "audio" degrees are totally unprepared for the workplace.

Work ethic and attitude are more important to me than education level.

When I do "hire" interns and entry level I find their college/university education more of a hinderance than help! Their "know it all" attitude I feel is not conducive to working in a creative atmosphere.

The person's internal drive and desire to be successful seem to be what makes the person most desirable for the job.
Four-years: they have picked up too many bad habits. I prefer high school grads with plenty of sequencing experience.

Individuals that are bright and motivated are prepared from both four-year and two-year courses. Ego-maniacs and students with unaddressed personality problems are worthless after ten years of school.

Appendix P

Other Areas for Question #13 by

Respondents Whose Primary Business Activity is

"Recording Studio" or "Audio Post Production"

Appendix P

Respondents who indicated "**Recording Studio**" or "**Audio Post Production**" to Question #1:
Which descriptors represent your company's primary business activities? (Please check ✓ all that apply.)

Comments to Question #13:
What job qualifications do you consider most important?
List any other areas (not included above) that you also consider important:

Good hair.

Diplomatic qualities.
Personal qualities.
Non-smokers preferred.

Character references.

As to the above--it I am hiring an office manager or clerical--the above listing is not applicable.

Desire to learn. Eagerness to achieve.

Work ethic, attitude, personality.

All above are good but first priority is attitude and ability to relate/communicate with clients and to make them feel comfortable--that they are in their best working environment.

Commitment to quality teamwork.

Attitude & personality.

Attitude, communication skills, personal goals, willingness to work hard long hours (dedication), understanding of engineering occupation.

Client Relations.
Marketing.

Appearance, grooming, size, weight, command of the English language, willingness to work, creative ability, honesty, reliability.

Experience.

Ears--knowing what music is supposed to sound like.

Personality--getting the client to like him/her.

Can he or she work with people?

References from other jobs and people.

Acoustic recording experience.

In-studio experience, hours logged, credits.

Personality is extremely important. Everything else can be taught.

Attitude and willingness to learn.

Personality is the MOST important!

Audio post production for video.

Engineering in studio and good sales/people skills.

Personality, eagerness, dependability.

I find most important: maturity, personality, intuitiveness. The above skills were much more technical. Ultimately, recording is working with and for people.

My most important employee criteria: enthusiasm, alertness, intuitiveness, communication and support skills.

Technical skills and previous work experience (retail, sales, management) major factor.

Analog/digital tape editing. "Micing" of different instruments and voices.

Attitude. Desire to learn.

Personality.

Well adjusted personality with open eyes and a willingness to learn humility.

In studio recording and mixing experience. Phone handling professionalism.

Enthusiastic "can do" attitude. Ability to work well with people.

Personality. Musical "taste" or "ears."

Personality and attitude.

A general understanding of audio and video equipment operation. Personality-The ability to work with others (Personal work ethic).

People skills.

Sales ability.

Communication skills. Education (the more the better). Related experience (engineering, etc.). Music-playing, writing, teaching, etc.

Ability to communicate with the client in an intelligent manner! Ability to adapt and learn from new experiences.

An individual who is personable, anxious to enter the industry, realistic with goals and responsible, honest, mature, fun (with a good sense of humor), respectful and caring. Do you teach these qualities?

Personality, ability to work with clients, likeable, friendly, able to work under pressure, attention to detail while being time conscious, genuinely interested in client's end-product no matter what it may be.

A great ear, client relations, the art of mic technique.

People skills. The ability to work with and interact with the client and to keep the client happy.

Studio Recording Experience.

Most important is general responsibility and efficiency.

Attitude, personality.

As in any endeavor in life, you must have a passion for your activity, whether it be your job, your schooling, your music, whatever it is that occupies your time. To be a recording and/or mixing engineer you must have a passion for it.

Enthusiasm and ambition.

Common sense, enthusiasm, ability to work with people, professionalism.

Studio etiquette, attitude and demeanor above all.

Good attitude!

Knowledge of tape machine alignment and set-up. Solid foundation in basic signal flow and gain structures.

Ability to work well with others. Willingness to learn from others.

Attitude, aptitude, personal integrity, references from employers and/or instructors.

Attitude, attitude, attitude.

Personality and etiquette to clients.

Ability to communicate with clients. Work under stress.

Recording experience (in the studio).

Appendix Q

Pre-Employment Training (question #15) Preferences by Respondents Whose Primary Business Activity is "Recording Studio" or "Audio Post Production"

Appendix Q

Respondents who indicated **"Recording Studio"** or **"Audio Post Production"** to Question #1:
Which descriptors represent your company's primary business activities? (Please check ✓ all that apply.)

Comments to Question #15:
Are there any other areas in which you feel students should receive pre-employment training as part of a formal educational program?

Mixing. Recording.

Communication skills: Attitudes, appearance, ability to "listen."

On the job training is most important.

If you have a good exposure to E.E. all of the above divisions becomes insignificant.

I can teach someone with the right attitude & people skills to run the studio. It's much harder to change the attitude & people skills of someone who can run the studio if they don't have their attitude together.

1) Client relations - "How not to be just a button pusher."
2) Client relations - "How to keep cool when you've just erased critical audio."
3) Client relations - "How to keep cool while the building is burning down.

Verbal and written communication skills.

Physics of sound.

How to make shirt tail budgets work for you and how to create and run your own business because that is the way future studios will run.

Paint realistic picture of what they can expect in the audio industry. Fame, Fortune or Glamour should never be expected. Most of the time it is very competitive to get into an entry level, low paying job to work very long hard hours. However, the work is very creative and rewarding.

Creative problem solving, working with basic equipment.

Sales.

How to handle problems with tact.

Working with the real world on the job with people and day-to-day real life situations.

Acoustic recording. Recording a big band or string quartet on remote or in the studio.

BASICS! Like microphone selection, operating levels, signal flow, etc.

Public relations, psychology, etc.

The psychology of engineering.

Session set-up and procedures.

Psychology and people skills with some business.

Audio for video.

Sales, people skills.

Psychology.

Session "psychology."

Studio set-up procedures with regard to recording needs and studio 'comfort' and 'aesthetics' for clients.

Business writing, communication skills, customer service.

Studio protocol--the difference between (jingles) commercial/corporate sessions and music industry sessions.

Communication.

Signal flow. In/out, left/right basics.

Psychology in the studio (dealing with and preparing for clients).

Etiquette in the studio. Editing and splicing analog tape. Tonmeister program which integrates a music education with a recording engineer training program. Music background is paramount.

Studio protocol/ethics.

Office procedures.
Customer relations.

Music.

General business practices, client relations and service. How to present (sell) audio services.

How to get along with clients and work ethic.

Must emphasize fundamentals of basic physics and acoustics. What exactly is a sound and the role transducers play in its manipulation.

Sales training. Without the ability to "sell yourself" to a prospective client I believe a studio will have a very difficult time surviving. All the technical information in the world will not help in any business until the chance is obtained to display the knowledge. (In my opinion.)

Dealing with clients, the psychology of session management, artistic contributions, good judgement, creative use of equipment and it's capabilities, and so on.

In general, a lot of "stuff" not related to the technical aspects of audio production.

Patch bay.

Client/engineer relationships, scheduling, predicting project times, efficient studio use.

Ear training, mic technique, client relations.

Most students we've been exposed to learned on a 24-track, or 2-24 tracks, 60 input board, 10 multi FX units, 15 pieces of outboard gear, etc. And if you give them an 8 or 16 track, 1 reverb to put together a video or AV soundtrack, they think it can't be done. More hands-on experience with real world systems.

Musician psychology. Being successful in this industry is about 75% attitude and human perceptiveness and 25% knowledge of equipment.

Training in cultivating new people in local bands, groups, etc. to come and record in the studio they are employed in. So many seem to think their place is at the console in the sound room. But to survive one has to get out and mix and mingle with the locals to get people in to record or use other services offered by the studio.

All communication skills (public speaking, reading, and writing).

Physics of sound, music business law, copyright law.

In the field, work is very important. The pressure of seeing the job through and overcoming obstacles. Particularly when a paying client is involved.

The psychology and dynamics of a typical recording and/or mixing session. The tense nature of the musician, the egos of artists, the ignorance of some customers to the recording process if they have never recorded in a studio.

Getting the most out of any recording situation by using their skills and not relying on expensive state of the art technology.

Working with people, trouble shooting.

Basic business skills.

Again, attitude and demeanor are paramount. This is a service business, entry level applicants must think like servants. Secretarial skills, attention to detail, attention to client/session needs. I don't know how you teach these things (a stint as a waiter/waitress?) but a person with the right attitudes will fly past those without "proper" attitudes.

How to survive physically and mentally while looking for a job!

Communication skills, interpersonal skills.

Conceptual thinking processes. We need people who have not learned systems by rote but truly understand the basic concepts of the equipment they will be working with.

Going through the entire process solo.

Group dynamics, psychology, diplomacy, physics of music, acoustics, importance of paperwork and logs, cleanup techniques.

Possibly songwriting or song construction courses.

Basic audio signal terminology, basic electronics, basic digital electronics, basic analog electronics.

Internship.

Internships should be mandatory, working for a variety of potential clients (i.e., producer). Reacting to pressure/stress.

Appendix R

Other Areas for Question #13 by

Respondents Whose Primary Business Activity is

"Sound Reinforcement-Local," "Sound Reinforcement-Regional," or

"Sound Reinforcement-National"

Appendix R

Respondents who indicated "**Sound Reinforcement-Local**," "**Sound Reinforcement-Regional**," or "**Sound Reinforcement-National**" to Question #1:
Which descriptors represent your company's primary business activities? (Please check ✓ all that apply.)

Comments to Question #13:
What job qualifications do you consider most important?
List any other areas (not included above) that you also consider important:

Troubleshoot live sound problems: hums, buzzes, ground loops. this is a very important area, not many students know even where to start.

Personal communication
skills.

Stage experience, working in a low light environment, theater, coffeehouse, college concert stagehand experience, all would be more important than items 4 through 8.

Attitude, teamwork.

Ability to interface with people.

Engineering in studio and good sales/people skills.

Technical skills and previous work experience (retail, sales, management) major factor.

Attitude. Desire to learn.

Have they done any shows, theatre, convention, etc. Actual job experiences.

Eagerness to learn.

People skills.

Attitude is the most important: not too cocky but enthusiastic as hell.

Personal communication skills.

Work ethic.
Good attitude.

Willingness to listen to directions. Willingness to accept the fact that what they were taught is usually not the way the real world is.

Skills in communicating with others and knowing how to deal well with clients. "People skills"!!!

Public relations skills, sales experience, certification.

Able to think/answer quickly without looking like you're picking your words and knowing when you're right and a client is wrong, and being able to tell them without pissing them off.

Personality and work habits exceed any of the above.

Again, I can't stress the importance of a four-year college degree. Preferably not in the music business. A well rounded educated person makes the best sound reinforcement professional. Beyond all the technology skills this is #1 a people business. A person with strong interpersonal skills is worth five "technical" graduates.

Physical ability.

Most important is general responsibility and efficiency.

Attitude, personality.

Attitude, aptitude, personal integrity, references from employers and/or instructors.

Appendix S

Respondents Whose Primary Business Activity is

"Sound Reinforcement-Local," "Sound Reinforcement-Regional," or

"Sound Reinforcement-National"

Comments to Additional Pre-Employment Training

Appendix S

Respondents who indicated "**Sound Reinforcement-Local**," "**Sound Reinforcement-Regional**," or "**Sound Reinforcement-National**" to Question #1:
Which descriptors represent your company's primary business activities? (Please check ✓ all that apply.)

Comments to Question #15:
Are there any other areas in which you feel students should receive pre-employment training as part of a formal educational program?

Troubleshooting live sound problems.

Students should receive a two-year internship with extensive hands on experience before applying to sound engineering positions.

A.C. basics.

Get out of school and out on the job.

Nothing prepares you better than on-the-job training. Training new workers about the way "Things are done" takes the longest and costs the most. A well trained worker, no matter what they know, is always your greatest asset!

Sales, people skills.

Business writing, communication skills, customer service.

Signal flow. In/out, left/right basics.

I feel community service is an excellent way to pick up actual work skills and workplace etiquette.

Setting up/tearing down gear. Packing equipment. Dealing with clients.

Lighting and lighting applications with sound are a must to know.

Carpentry: learning how to make road cases and use tools required to build speaker cabinets.

Systems packaging, wiring, trouble shooting.

Basic electronics. Construction skills.

Acoustics and sound.

Basics are more important than specific equipment training. I have had a number of four-year graduates in audio engineering not being capable of tracing signal flow, or micing a stage. They had good theory and equipment knowledge but very little practical experience and knowledge of system integration.

Must emphasize fundamentals of basic physics and acoustics. What exactly is a sound and the role transducers play in its manipulation.

*Feedback
*60 cycle hums
*Neon bar signs
*Irate road managers
*Inept stage hands
*Diplomacy

Psychology.

1) Gain structure
2) Electricity
3) Phasing
4) General wiring practices

Musician psychology. Being successful in this industry is about 75% attitude and human perceptiveness and 25% knowledge of equipment.

Interpersonal skills (which can only be developed through actual trial by fire production work).

Again, I cannot stress enough the need for strong communications program that focus on: interpersonal skills, self-expression, basic psychology and sociology, and the art of dealing with people. Trouble shooting/system analysis.

Building structure as it relates to safety in rigging.

All communication skills (public speaking, reading, and writing).

In the field, work is very important. The pressure of seeing the job through and overcoming obstacles. Particularly when a paying client is involved.

Group dynamics, psychology, diplomacy, physics of music, acoustics, importance of paperwork and logs, cleanup techniques.

ENDNOTES

ENDNOTES

1. The exception to this seemingly brash statement are studies which have been conducted to determine prevailing salaries in the industry, projections for new equipment acquisitions, and viewpoints concerning the business climate. Although these are scientifically designed surveys, they add no content to this present study. The reader is referred to the following as examples:

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